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David C. Thompson
Kansas State University

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KANSAS STATE
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Celebrating
40 Years
of Educational
Considerations

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Educational Considerations is celebrating its 40th anniversary. The biannual publication was first produced in 1973 – and has been hosted at Kansas State University since its inception.

I credit the publication's success to strong leadership who provided this venue as a voice for educational issues, particularly educational finance and policy issues. Editors have carefully selected thematic issues focusing on real challenges that impact education discussions in a meaningful and substantive ways. The journal has flourished because of its relevance to the world of theory and practice, as well as theory into practice.

As the journal continues in its growth pattern, it is particularly noteworthy that in 2012 it became an affiliate journal for the National Education Finance Conference. Further, the journal is indexed with several national databases, and all prior issues have been uploaded to EBSCO.

So, on its 40th anniversary, please join me in celebrating ***Educational Considerations*** contributions! Thank you to our subscribers and readers for their continued support.

*Debbie Mercer, Dean
College of Education, Kansas State University*



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educational considerations

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Introduction to the Special Issue

David C. Thompson, *Chair, Board of Editors*

Faith E. Crampton, *Executive Editor, Board of Editors*

R. Craig Wood, *Board of Editors and Chair, National Education Finance Conference*

We are pleased to bring you the first of two special issues of *Educational Considerations* comprised of papers presented at the 2012 National Education Finance Conference in San Antonio, Texas. A total of twelve papers were selected for publication through a call for papers and a peer review process. In this issue, six of these appear. They address a range of contemporary education finance issues facing elementary, secondary, and higher education. A number of articles reflect the challenge of providing adequate and equitable funding for education in the aftermath of the worst economic recession in the history of the United States since the Great Depression of the 1930s. In addressing these ongoing challenges, many legislatures have looked to more efficient use of state resources through mechanisms like performance budgeting, sometimes to the detriment of at-risk student populations.

This special issue opens with "The 'New' Performance Funding in Higher Education." In this article, McKeown-Moak notes that public higher education is increasingly being required to explain, defend, and validate its performance and value to a wide variety of stakeholders, from policymakers and politicians to students and taxpayers. As of 2012, thirty-two states were either using a form of performance funding or had proposed it. In large part, legislatures have turned to performance budgeting as a mechanism to increase the efficiency and accountability of higher education spending in relationship to outcomes, but this approach is not without its critics. This article examines in greater detail the performance funding systems in several states comparing older approaches with newer forms. According to McKeown-Moak, the current wave of performance-based funding is quite different from that of a decade ago. In the new form, calls for additional funding are linked to increased accountability and increased efficiency of operations. One of the main differences is a change in the focus from meeting the needs of higher education to meeting the needs of students, the state, and its economy.

In the second article, "But Where Will the Money Come From? Experts' Views on Revenue Options to Implement

Campaign for Fiscal Equity v. State of New York," Zaken and Olson consulted a group of twelve public finance experts knowledgeable about the state and city on how best to raise the additional \$5.6 billion education funding annually that the court mandated. This qualitative, theory-based study, which utilized framework analysis as its guiding methodology, serves as a complement to a 2005 quantitative study published by the Institute on Taxation and Economic Policy. All but one of the experts interviewed asserted that the state had the capacity to meet the court's mandate through increased tax revenues. The broadest support was for increasing the state's personal income tax, primarily through making it more progressive, and for reinstating a commuter income tax on those who work in New York City but do not live there. The least support was for increasing sales taxes given its regressive nature.


Targeting funding to those students who need additional resources to be academically successful remains an important state and federal policy tool, but its effectiveness relies upon the accurate identification of those considered at risk of academic failure. In "Ohio's At-Risk Student Population: A Decade of Rising Risk," Vesely used a research-based typology of student risk to identify and compare the number and incidence of these students between 2001 and 2011. Of the five risk factors analyzed, student poverty remained the most severe. In 2001, approximately 25% of Ohio students were classified as poor. A decade later, this percentage had risen dramatically to 43%. Although not as dramatic, the incidence of other risk factors, such as disability, ethnic/racial minority, and English language learner had also increased. Such research can assist Ohio legislators and policymakers in shaping education finance systems to achieve greater vertical equity.

The fourth article, "Entitlement Funding for English Language Learners in California: An Intradistrict Case Study," authored by Jimenez-Castellanos and Okhremtchouk, used a microlevel case study approach to analyze the allocation of two categorical aid programs for English language learners (ELLs), one state and the other federal, across a sample of three schools in a California school district. The federal aid

program examined was that part of Title III funding targeted to ELLs while the state-funded categorical aid was part of the California's Economic Impact Aid program. In both cases, aid flows from the state to school district level where the district must follow pertinent state and federal guidelines for how it may be used. The overarching purpose of these aid programs is to provide supplemental services to ELL students. Through interviews and document analysis, the authors gained insight into the district level decision-making process related to school site allocations and how ultimately the district and individual schools used these funds.

In the fifth article, "Nevada, the Great Recession, and Education," Verstegen provides readers with a detailed political analysis of the economic crisis the state of Nevada faced during the 2007-2008 recession and subsequently, with particular attention to its effects on the K-12 and higher education systems. Nevada was particularly hard hit by the recession and its aftermath. In February, 2009, as the legislature began deliberations for the next biennial budget, the state's economic outlook was dismal. Unemployment was close to 10 %, and economic forecasts were approaching historic lows. Two years later, Nevada had the highest budget gap in the nation at 45.6%; the highest unemployment rate

at 14.5%; and the highest number of housing foreclosures in the country. With over half of the state budget allocated to education, there was no question that K-12 and higher education would be greatly affected. Strategies to address state budget shortfalls included a combination of approaches—spending cuts, withdrawals from reserves, use of federal stimulus dollars, revenue increases, and accounting changes.

In the final article, "Measuring Equity: Creating a New Standard for Inputs and Outputs," Knoeppel and Della Sala have conceptualized and created an "equity ratio" whose purpose is to evaluate the degree to which states align resources for education to measures of student performance. Specifically, the authors were interested in the degree to which three states provided equity of inputs to education and whether equal resources produced equal outputs. To test this new statistic, equity ratios were calculated for Kentucky, Massachusetts, and New York. Only Kentucky was found to have equality of inputs to education while equal measures of student outcomes were found in New York with great improvements noted in Kentucky. The authors concluded that the calculation of the equity ratio was affected by differing standards across states as well as different policy goals with regard to equal funding. 



The “New” Performance Funding in Higher Education

Mary P. McKeown-Moak

Mary McKeown-Moak has 45 years of experience as an administrator working with universities, school districts, state legislatures, and executive offices in financial and capital planning, human resource management, budgeting and resource allocation, and strategic planning. She has developed funding formulas for universities, community colleges, special education, pupil transportation, categorical aid, and general school aid; and served as an expert witness in finance litigation. She is past president of AEF (formerly AEFA) and AERA's Fiscal Issues, Policy, and Education Finance SIG as well as chair of the State Higher Education Financial Officers. She has authored five books and over 200 articles and chapters.

Over the past several years, public higher education, both in the U.S. and internationally, has increasingly been required to explain, defend, and validate its performance and value to a wide variety of constituents, including governors, legislators, students, parents, employers, and taxpayers. This trend is related to a number of converging factors:

- The economic crisis in state funding for higher education, and the belief that state funding will not recover to pre-crisis levels;
- Intense competition for extremely limited state tax dollars among all areas of government, and an increased focus on results and outcomes for public services;
- Increased societal needs and expectations for public higher education; and
- Increased skepticism and scrutiny of all social institutions.

In addition, in 2006, then U.S. Secretary of Education Margaret Spellings formed the bipartisan Commission on the Future of Higher Education that looked at the problems of higher education.¹ Among those problems the Commission addressed was the absence of accountability mechanisms to ensure that colleges succeed in educating students. Governors and legislators demanded that higher education provide some assurances that scarce dollars were not being wasted.

This focus on “accountability” led to the development of a continuum of performance-oriented mechanisms ranging from higher education “report cards” to performance-based funding for public colleges and universities. The latter is by no means a new concept in public budgeting, either in general or for higher education specifically. The federal government experimented with this kind of budgeting in the 1960s, and the state of Tennessee has had an ongoing performance-based funding program for higher education in place since 1979. In 2000, at the height of the old form of performance funding in higher education, more than three-fifths of all states, 35 in all, engaged in at least one form of performance-based funding.

However, the current wave of performance-based funding is quite different from that of a decade ago. State higher education leaders have begun to link calls for additional funding

to increased accountability and increased efficiency of operations. One of the main differences between performance-based funding then and now is the change in the focus from meeting the needs of higher education to meeting the needs of students, the state, and its economy.

Performance funding prior to 2000 generally was linked to and a component of the funding formula for higher education institutions. State-level funding formulas or guidelines for public higher education have been in use in the United States for over 60 years, and their original purpose was to distribute public funds for higher education institutions in a rational and equitable manner. Funding formulas have continually evolved into often-complex methodologies for determining institutional funding needs and allocating public funds, and have included performance components in many states. Perhaps the only constant during this period has been the ongoing controversy among participants in the state budgeting process surrounding the design and usage of these funding mechanisms.

In the first part of the 21st century, however, funding formulas for public higher education have undergone a radical change. State after state has shifted its funding formulas from the old methods to a new wave of formulas that examine the need for public resources for colleges and universities in a fundamentally different way.

As the national economy went into a period of recession in the last half of the first decade of the 21st century, state appropriations for higher education declined, and in some cases, declined more than 20%. Because higher education enrollments are countercyclical, enrollments increased while state appropriations decreased, putting significant pressures on institutional budgets. At the same time, there was a national focus on performance and in increasing the numbers of college “completers” as a means of improving the economy. From the White House to state houses to foundations such as the Bill and Melinda Gates Foundation and the Lumina Foundation, the demand was made for increased graduation rates at lower costs for students and at a lower cost to taxpayers. The economic crisis of the states led to demands for graduation of more students, with higher quality educations, more efficiently, and more quickly.²

This shift in focus away from the “needs” of the college or university to allocation methods that are student-centered, or based on measures of “success,” is a sea change in college and university formula funding. Measures of success in this case relate to student success and institutional success in meeting the needs of the state or local community. In this time of financial crisis, there appears to be a much greater recognition of the fact that higher education is a major driver of the economy and that the state and local community need higher education to provide educated citizens with their greater earning power and ability to pay more in taxes, as well as the other benefits of higher education, including the transfer of knowledge. Policymakers appear to believe that higher education budgets are not aligned with state or local priorities and want institutions to produce graduates in high-demand fields like nursing or teaching.

Some of the measures in the new wave of funding formulas may sound like the old measures. For example, graduation rates used to mean the number of full-time, first-time freshmen who complete within 150% of the traditional time to degree, i.e., six years for a four-year institution and three years for a community college. The new measure of graduation rate includes students who take longer because of their part-time status or adults who have other responsibilities and are neither “first-time” nor “full-time.” The new measure may be called “completions” and refers not only to graduations, but also to certificates, apprenticeships, and completion of the student’s plans, which may be 12 hours of a computing programming strand, a teaching certificate, or some other credential.

The new funding models reflect the needs of the state and its citizens, not merely the needs of the institution. Instead of additional funding to educate more students and maintain quality, the economic crisis in states has led to reduced funding to educate more students and still maintain quality. This has been called the “upending of conventional ways” that are “out-of-touch with economic and demographic realities.”³ Instead of funding based on the level of resources needed to maintain the “market basket” of courses, programs, and degrees, given the make-up of the student body, the new funding mechanisms shift to funding based on results as measured by course completions (not enrollments), degrees, and other “completions” as defined above, as well as other measures of institutional success in meeting the state’s and the students’ needs.

This new paradigm may be called “performance funding” with a twist. Some states have been using performance funding to incent certain behaviors for over 30 years. States that had model performance funding under the old methodologies include Florida, Missouri, Ohio, and Tennessee. The new methodology does not do away with the underlying funding formula principles of equity, responsiveness, or adequacy, but rather calculates the amount of funding by including some different variables. The new methods have state goals as an important component, but give institutions flexibility in reaching the goals. A small proportion of the overall budget is allocated based on performance, but measures consider the differences between institutions and their students. These new models are phased in over time to give institutions time to change and realign their priorities.

States adopting new models have taken their longstanding formulas and adapted those formulas to emphasize results, such as graduation or course completions, and cost-effectiveness. In Ohio, for example, the measure of “enrollment” has moved away from the number of credit hours in which students are enrolled at the beginning of the semester to the number of credit hours for which students successfully complete the course. The weighting of the credit hours remains the same to recognize differences in the costs of providing courses in different disciplines and at different enrollment levels (undergraduate, graduate). Texas proposed to do the same for its four-year colleges and universities. However, the legislature rejected this proposal and directed the Texas Higher Education Coordinating Board to come back with a new formula based on completions for the four-year,

nonmedical campuses. Other calculations in the funding model in Ohio and Texas remain the same, such as those for student services, academic support, and the physical plant. There is some concern on the part of faculty that counting only successful completion of a course will lead to grade inflation and pressure to graduate unqualified students. These are real concerns as is the concern that responding to state priorities that change results is trying to hit a moving target, making it impossible for institutions to be “successful.”

In reality, most states using course completion credit hours are funding performance at the margins; that is, the state allocates only a small proportion of funds based on performance. South Carolina’s performance funding system failed because it was based on 100% of the funds and was too complex. Other performance funding systems have failed when the political support from the governor or legislature changes, and state priorities change. Term limits and legislative turnover also were blamed for the failure of the South Carolina and Missouri performance funding systems.

In the sections that follow, this article examines the performance funding systems in use or proposed by several states. As of 2012, 32 states were either using a form of performance funding or had proposed performance funding. In many cases, the governor proposed a performance funding model based on the National Governors’ Association Complete College America initiative. The Lumina Foundation and the Gates Foundation provided millions to jump-start performance funding in a group of states, including Texas, Indiana, and Arizona. The funding was designed to develop programs and funding for those programs that would increase the number of college completers, and, therefore, drive the economy.

Table 1 displays a comparison of the performance funding proposed or in use in six states, all of which had been using some form of performance or accountability measures before the new paradigm was proposed: Indiana, Louisiana, Ohio, Tennessee, Texas, and Washington (community and technical colleges only). Each of these states: (1) uses a new paradigm funding model at some point in the resource allocation process; (2) considers its funding model to be performance-based although “performance” may have different names; and (3) developed its funding model based on a set of guiding principles that were linked to a state master or strategic plan and involved and received support of the governor, key legislators, and other stakeholders.

The Texas and Ohio formulas are based on the “old” or traditional funding formulas that had been in use for many years in which credit hours weighted by varying factors related to the discipline and level are multiplied by a cost factor to determine the amount the college or university receives for instruction. The difference in the new formula is that the credit hours are credit hours *completed*, not credit hours *attempted* or *enrolled*. Ohio is phasing in the new formulas and has hold-harmless factors in effect for the next biennium. As mentioned earlier, the Texas legislature sent back the proposed funding formula for revision to degrees completed.

Table 2 displays the performance measures or accountability factors that have been included in the performance models of California (the California State University System), Colorado,

Florida, Indiana, Louisiana, Ohio, New York, South Carolina, Tennessee, Texas, Washington, and Wisconsin. All of these states link at least a part of funding to performance measures.

The measures included vary from state to state. All of the states include the number of degrees awarded in some way in their performance funding. Indiana awards \$5,000 for a baccalaureate degree and \$3,500 for an associate’s degree, and an additional amount for degrees awarded to adult learners and students classified as “at-risk.” Tennessee, Louisiana, Ohio, Texas, and Washington include the number of degrees awarded in “momentum point” calculations.⁴ Time to degree also is a concern in many states, as policymakers are asking students to graduate sooner and at a lower cost to the student. Graduation on-time is considered in performance models in Colorado, Florida, Indiana, Ohio, New York, South Carolina, and Wisconsin.

Of special importance in many states, given the need to award more bachelor’s degrees, is transfer from a community college to a university campus. California, Indiana, Louisiana, Ohio, New York, South Carolina, Tennessee, and Washington include transfer as a component in their performance models. In Washington, Tennessee, Texas, and Ohio, transfers are counted in the momentum point calculation, and funds allocated to institutions based on the number of transfers.

Sponsored research activity also is an important component of the mission of universities, and is included in the performance measures in all the states except California and Colorado. Washington’s performance funding is used for the community and technical colleges only, which do not have a research mission.

The newest components of performance funding are the use of momentum points and the counting of enrollment at course completion. Indiana, Louisiana, Ohio, Tennessee, and Texas all are counting enrollment not as course credit hours attempted but rather at successful course completion. Ohio, Tennessee, Texas, and Washington are initiating performance funding that relies on momentum points. These are significant changes in the spectrum of performance measures and performance funding. It is too soon to determine if these changes will incent behavior that leads to more efficient degree completion for more students. The performance funding in use (or proposed in Texas) in each of these states is described in the following sections.

Indiana

In Indiana, the funding method is being restructured to one that focuses on results, such as graduating more students on-time, successfully transferring students, increasing federal research dollars, and completing credit hours. Indiana’s formula provides 65 percent of the marginal increase in appropriations to be based on performance, phasing in to completed credit hours rather than attempted hours. In 2010, 90% was based on attempted and 10% on completed hours. By 2014, 100% will be based on successfully completed hours. Also, by 2014, all new appropriations will be based on the performance factors. Currently, Indiana also is providing a “capitation grant” which can be either a decrease or an increase in funding, based on the change in total degrees

Table 1 | New Paradigm Funding Models

	Indiana	Louisiana	Ohio	Tennessee	Texas	Washington
Year began Performance Funding	2003	2008	1980s	1979	1990s	2007
Guiding Principles	yes	yes	yes	yes	yes	yes
Linked to State Master Plan	yes	yes	yes	yes	yes	yes
Basic Formula	7 performance based funding formulae: credit hours enrolled with 65% of the marginal increase in approp. based on performance indicators; starting in 2009, phase in to completed credit hours - in 2010, 90% of enrollment \$ on attempted, 10% completed; by 2014 100% on completed; change in total degrees awarded, change in # of on-time degrees; low income # degrees;	6 parts in 2 components: instruction cost by discipline by level by type of inst; O&M based on APPA cost per GSF adjusted by FTES; IS and SS by % of core, research, and O&M; research by match of 50% of federal \$; completers based on more degrees, sp. Fields, Pell, and other; workforce programs that meet state needs	separate for univ, regional, and cc: univ main and regional: course cr. Hrs completed at main - phase-in at reg'l, weighted by level and discipline, with extra for at-risk, multi-yr average phased in slowly, set asides for doctoral and medical; 99% hh in 2010, 98% hh in 2011; cc: enrollment, student success, institutional goals, enrollment in course averages for last 6 yrs. adjusted for student fees, by discipline extra wts for STEM; success component starting in 2011 at student success pts - 15, 30 cr hrs; remedial, degrees or 45 cr hrs, 5 cr hrs math, high school enrolled, transfers, with 3 yr. average.	changed enrollment base of 3-yr rolling average of fall enrollment; = 60% of formula with incentives focused on inputs and performance = 10% of funding; now focuses on outputs with more variables; base + "points" times average SREB salary by inst. Type+ performance funding	cc: 90% on attempted contact hrs with a matrix of 26 disciplines, 10% on momentum pts, with special amounts for critical fields; technical and state colleges: momentum pts and attempted hrs with wts for disciplines; univ (non-med): instruction and operations based on completed cr hrs, with teaching exp supplement and small inst. supplement phased in over 4 yrs. ; medical: headcount by program wts by base \$ + research enhancement+ mission specific	base budget, plus \$ for each momentum point in 1st yr; then base adjusted by increase in momentum points from previous year
Performance Funding	funding phased in; since 2003, 7% of total funding; in 2009, 100% of new \$; for 2009-11, about 2% of all \$, increasing	phased in	10% of funding phased in since '80s; 3 components - institutions, students, faculty; only institutions funded in 1st phase; then student incentives	outcomes weighted and linked to institution's mission	measures of student success funding at 100% of growth	momentum points, phased in over 5 years
Performance Indicators	increase in number of degrees \$5,000 per bac, \$3,500 per aa; completion on time - change funded at same as degrees; number of at-risk students same as degrees awarded to Pell recipients; community college transfers \$875 per FTE for cr hrs transferred from VU or IT; , and for tech: provision of non-credit workforce training	completers overall, completers in sp. Fields, at-risk completers, graduation rates, cc transfers, course completions, adult (25+) completers, grad/prof completers; for cc: remedial completions, pass math, 15 cr hrs, 30 cr hrs, job placement, certificate, licensure pass rate	course completions, degree completions, sponsored research; lower tuition at access campuses, decreased time to ug degrees, increase in non-credit job-related training with specific reg'l needs given wts up to 5%of funding for cc	degree attainment, transfer activity, student retention, time to degree, research, first time students, etc. based on "points"	momentum points, course cr hrs completed	4 categories of momentum points: first yr retention (15 cr. Hrs.; 30 cr. Hrs.); 45 cr hrs.; completing college level math (5 college level math hrs); building toward college level skills (remedial math; remedial English, pass standardized test); and completions (degrees, certificates, apprenticeship training)

(Table 1 continued on page 7.)

Table 1 continued | **New Paradigm Funding Models**

	Indiana	Louisiana	Ohio	Tennessee	Texas	Washington
Incentive Funding	yes	included in formula components	"challenges"	separate from performance and base funding	for medical schools	incentives are the \$ for momentum points
Incentives	based on federal research, funded at \$10M; now linked to performance indicators; 2-yr transfer incentive; non-credit "eco-devo" incentive new formula	50% of federal research \$; \$ for workforce programs;	research funding; special needs of region	linked to state plan	1.28% of research funding	\$500,000 for student achievement rewards; asked for \$7M for 2009-11
Used in Times of Budget Cuts	yes: better performance meant lower cuts	yes, but differently for increase, stable, and decrease	yes	?	not yet	yes
Support of Governor and Legislature	yes	yes	yes	yes	yes	yes
Support of Business Community	yes	yes	yes	yes	yes	yes

awarded to in-state students or in the on-time graduation of (full-time, first-time) in-state students from one year to the next, of \$5,000 per baccalaureate degree and \$3,500 per associate degree. In addition, because of a perceived state need to increase the number of low income graduates, an additional \$5,000 per baccalaureate degree and \$3,500 per associate degree is earned for an increase in the number of degrees to low-income graduates, where "low income" is measured by being a Pell Grant recipient.

Indiana also provides incentive funds for both the college and university that transfer or receive transferred credits. Another incentive fund provides a 75% state fund match for sponsored federal research dollars, although the legislature did not provide funding for this incentive in 2010. A third incentive fund provides resources to ITCCI and VU to expand non-credit workforce instruction. All of these performance and incentive funds in Indiana make up about 10% of all state appropriations to Indiana's public colleges and universities.⁵

Louisiana

In Louisiana, the funding formula is designed for the equitable distribution of limited dollars. However, pay for performance has become the dominant topic, and a portion of funding has been allocated to performance measures and to more accurately base funding on the role, scope, and mission of institutions. At the same time, fiscal demands have reduced funding to higher education. The new revisions to the formula drive improved performance by measures of progression from one year to the next, completion, time to degree, and fulfilling state needs. In addition, the new formula equalized funding for associate degree and lower division course work, moved to end of semester credit hours completed as the basis of "enrollment," and established performance measures for each institution.⁶

For the 2010-11 year, 75% of funding was distributed based on the traditional, equity-based formula and 25%

based on performance. The formula has two parts, cost and performance, where the cost portion has three components: instruction, general support, and plant operations; and the performance piece also has three components: student access and success, articulation and transfer, and competitiveness and workforce. In the cost components, amounts per credit hour are determined based on level and discipline of credit hours. For general support, a percentage of instructional costs depending on the SREB averages by type of institution is used. For physical plant, amounts per gross square foot (GSF) are allowed, depending on a calculation of the space the institution should have. These amounts are summed to get the cost component. State funding of the cost component is set equal to the SREB average percentage support by type of institution, plus 5%.

For the performance components, the count of the number of degrees awarded, undergraduate degrees awarded to individuals who are over 25 years old, and degrees awarded to minority and Pell Grant recipients is determined for each institution, and are weighted. For the articulation and transfer component, a count is made of the number of students transferring from a two-year to four-year institution with equal incentive given to the transferring and receiving institution. For the competitiveness and workforce component, the number of completers in health professions and STEM disciplines are counted. In addition, the three-year average of federal funding for research and development is calculated.

Percentages of the total performance pool are assigned to each component, and the total performance funding is then allocated to each institution.

Ohio

Ohio began its performance funding in the 1980s, and has recently modified its traditional performance funding model to the new paradigm of funding based on course completions, graduates, and goals aligned with the statewide plan. During

Table 2 | Performance Measures Used In a Sample of States, 2011

Performance Measure	CA	CO	FL	IN	LA	OH	NY	SC	TN	TX	WA	WI
Retention Rates	X	X										
Enrollment at End of Course				X	X	X						
Achievement of Core Competencies	X											
Degrees Awarded	X	X	X	X	X	X	X	X	X	X	X	X
Degrees Awarded to Adult Learners				X	X							
Graduation Rates	X	X	X		X		X	X			X	
Time to Degree		X	X	X		X	X	X				X
Transfer Rates	X			X	X	X	X	X	X		X	
SAT/ACT Scores of High School GPA							X	X				X
Faculty Workload		X					X	X		X		X
Remediation	X				X						X	
Pass Rates on Professional Licensure Exams	X	X			X		X					
Student Opinion Surveys							X					
Faculty Opinion Survey							X					
Alumni Satisfaction Survey												X
Employer Satisfaction Survey								X				X
Graduate Job Placement					X			X				
Number of Licenses or Patents							X					
Sponsored Research Funds			X	X	X	X	X	X	X	X		X
Workforce Development				X	X	X	X	X			X	
Meeting State Needs						X						
Momentum Points:												
For Community or Technical Colleges						X			X	X	X	
For Universities						X			X			
Indicators Chosen by the Institution		X	X			X				X		

the 20th century, Ohio had a number of performance-based incentives (called “Challenges”) as components of its funding model: Access Challenge, Success Challenge, Economic Growth Challenge, and Jobs Challenge. Total funding for the challenges equaled about 10% of total state appropriations. Success of the performance funding of the 1980s and 1990s led to new changes in 2010.⁷

Ohio’s new model was mandated by the legislature and contained explicit goals for Ohio: enroll and graduate more Ohioans, increase state aid, improve efficiency, lower out-of-pocket costs for undergraduates, increase participation and success of first-generation students, and increase participation and success by adult students. As a result, there has been a major shift in the funding model to success-based formulas, one for

the university main campuses, one for regional campuses, and one for community colleges, all of which were endorsed by the Governor and approved by the Ohio legislature.

The model for university main campuses shifted from enrollment based calculations to course and degree completions, using a three-year average, weighted by discipline and level, and adjusted for the costs of at-risk students. The degree completion component is being phased in slowly, as are hold harmless adjustments to course completion from enrollment. Set-asides were made for doctoral and medical education. For university regional campuses, the shift to course completion also is being phased in over time, although the plan is to add the degree completion component in two years, to allow regional campuses to adjust their missions.

For the community colleges, the funding model consists of three components: an enrollment component, a student success component, and an institutional goals and metrics component. In addition, each college received an amount equivalent to the FY2009 Access Challenge and Tuition Subsidy allocation. The new formula will be phased in over several years. Community colleges receive extra funds for STEM enrollments and graduates.

The student success component is based on “success points” which in the Washington, Tennessee, and Texas models discussed in the remaining sections are called “momentum points.” Success points are intended to measure the significant steps that students take toward higher education achievement.⁸ Points are counted or earned at each institution for earning the first 15 semester credit hours, the first 30 semester credit hours, completing remedial credit hours, completing an associate degree or 45 credit hours, earning the first 5 credit hours of college level mathematics, being dually enrolled, or transfer to a university. The three-year average is used to calculate each community college’s share of student success funding. Amounts are prorated to ensure that each institution does not lose a disproportionate share of funding in any one year.

In addition, for the community colleges, 5% of funding was set aside for meeting specific regional or community needs. Each institution negotiates with the chancellor to determine if it has met the criteria to receive these funds.

Tennessee

Tennessee has used performance funding since 1979, and had set aside 5% of funding for performance. The prior funding model was linked to the Tennessee Master Plan, and focused attention on student retention, enrollment of adult students at community colleges, research funding, and enrollment. Approximately 60% of the traditional formula was enrollment-driven and the incentive or performance factor was heavily focused on inputs.

In 2010, the formula was redesigned to focus on outputs, with broad agreement on the activities and outcomes higher education ought to pursue. The new formula strengthened links to the master plan, enhanced incentives for student retention and research, and focused on productivity linked to each institution’s mission. Outcomes such as degree completion, transfer, retention were identified and data compiled. Points are awarded for those outcomes, weighted by the institution’s mission. For example, for a university, the number of bachelor’s degrees, graduation rate, time to degree, research expenditures, number of first-time students, number of sophomores, juniors, and seniors, doctoral degrees, masters degrees, adult student enrollment, and transfers in from community colleges, were counted, awarded points, and weighted to come up with a total number of points. These points were then multiplied by the average SREB salary for the type of institution, added to an amount for fixed costs, and added to performance funding to get the total allocation for the institution. For community colleges, the outcomes included the number of associate degrees, certificates, job placements, remedial and developmental success, first time students, adult

student enrollment, and transfers out to a university.

This formula is being phased in over several years. This formula recognizes that each institution has a fixed cost, which is unrelated to the number of students enrolled. It will be interesting to see if the formula has the desired effect of incenting certain behaviors. Tennessee’s formula is the most radical change of all the states, in that momentum points added to a “fixed cost” is being used to fund every institution. Although the research base for community and technical college momentum points is robust, it is unclear if there is a similar research base for determining the momentum points for regional and research universities, and for medical schools.

Texas

Texas has been the leader in funding formula development since 1950. Texas’ formulas and models have been copied by many states, especially since Texas has done a cost study every other year since the 1950s. This long record of discipline costs, facility costs, and the relationships to other components of institutional costs is one of the best in all the states.

In 2010, the Texas Higher Education Coordinating Board (THECB) determined that it should move to the new paradigm of funding formulas. Although Texas had used several forms of incentive and/or performance funding since the 1990s, the 2012 and 2013 request budgets focused on student success and a comprehensive shared responsibility model. The state must provide adequate levels of support, the institutions must provide support services, the students and their families must enter college ready to benefit, aware of financial aid opportunities, the community must foster a college-going culture, and the K-12 system must prepare students academically.

The proposed new funding model aligned the formula to the mission of the institution based on measures of student success, and provided performance funding to recognize achievement in meeting student success. For the universities, funding was to be based on an instruction and operations formula that provides funding for the general operations of the institution, based on discipline and level, and a formula for facilities, with a supplement for teaching experience and for small institutions. In the new formula, the count of credit hours was to be based on enrollment at the end rather than the beginning of the semester, with weights for at-risk students. Performance incentive funding was to be continued to ensure institutions would continue to meet state needs. This was to be phased in over time to allow for institutions to plan.

For the community and technical colleges, funding was to be based on two formulas: Ten percent on momentum points and 90% on attempted contact hours. Attempted credit hours were weighted by critical fields, and by the difference in the costs of providing education. In addition the small institution supplement, and funds for alternative teacher certification, were continued.

For health-related institutions, five formulas were used to calculate the institution’s allotment: instruction and operation, infrastructure, research enhancement, graduate medical education, and mission specific allowances.⁹

However, the Legislature rejected the proposal, and asked the Texas Higher Education Coordinating Board to return with

a proposal that would base funding on degree or program completions. Staff have been working with the institutions to revise the proposal, and will base the 2014 and 2015 request on a modified proposal.

In addition, in late April 2012, the Texas Technical College System proposed to tie 45% of their operating funding to the employment rates and salaries of their graduates. The system, which includes four colleges and 11 centers around the state, is collaborating with the Texas Higher Education Coordinating Board on the formula. The basic idea is to use job data captured by the state to compare graduates' salaries to an earnings baseline for high school degree holders in Texas. Also factored in will be overall employment rates for alumni, and other measures of their value to the state's economy. The colleges would see cuts if employment outcomes sag, and no new money will be tied to the plan. Roughly three-quarters of the technical colleges' operating budget comes from the state. The proposed formula will determine the instructional portion of the state's contribution, which is currently 45% of that budget.

This is a rather radical proposal, both in the percentage of the budget that would be determined by performance, and in that salaries of graduates can be the result of many factors beyond the control of the colleges. It is unclear how and if such a formula would work, when the factors included are not those over which the institution has any control.

However, this type of linking of funding to the average salaries made by graduates is being touted by many of the Republican governors as true "performance." In December 2012, Texas became one of the first states to report by field of study the first-year salaries of graduates of its public institutions. Florida indicated that it would soon follow. Both Texas and Florida have extensive data bases that make such reporting possible, but there are many difficulties with these reports. Self-employment income is not included, for one difficulty; another is salaries of graduates who moved out-of-state also are not included, or if they are, are self-reported. Many difficulties will have to be overcome to make this measure of first-year salaries a meaningful performance indicator.

Washington

In 2006 the Washington State Board for Community and Technical Colleges (WSBCTE) adopted a new performance funding system for the community and technical colleges. The system was based on work done by Teachers College Columbia University funded by the Bill and Melinda Gates Foundation that identified "momentum points" which are times in a student's college education that lead to continued success. These points have also been called "tipping points."

These points are key academic benchmarks that students meet that lead to successful completion of degrees and certificates. There are four categories of momentum points: building toward college levels skills, first year retention, completing college level math, and completion. These intermediate points in a college career provide "momentum" toward completion. Washington studied these measures, and in 2008 allotted \$52,000 to each college to develop student success strategies. After the successful implementation, in 2011 and in 2012, \$3.5

million was allotted to fund the momentum points.

Momentum points directly measure results. These measures have been used by WSBCTE: test score gains on basic skills tests, or earning a GED; passing a remedial math or writing course; earning 15 credit hours; earning 30 credit hours; completing five credit hours of college level math; earning a degree, completing an apprenticeship, or earning a certificate. Colleges are awarded one point for each momentum point earned above the previous year level of performance. Funding is set at a flat dollar amount for each point and if available funding does not cover all rewards, points are banked for the following year. All awards become part of the institution's base, and if the college's enrollment declines, momentum points are pro-rated.¹⁰

Another Notable Performance Funding Proposal

In April 2012, Missouri's higher education institutions proposed a new performance funding program, encouraged by Governor Nixon. Missouri has a history of allocating additional state resources on the basis of performance through its Funding for Results program from the late 1990s. However there has been no visibility or implementation strategy for performance funding since then.

The new proposal, which will have to be approved by the legislature, establishes five performance indicators for each institution. Each institution can earn one-fifth of its available increase in funding by demonstrating success on one of its five performance measures. If an institution demonstrates success on two measures, then it would earn two-fifths of the money, etc. while an institution succeeding on all five measures would receive 100% of its available increase in funding. The performance indicators are different for each of the sectors of higher education (technical college, community colleges, and research universities) and include common measures and one measure unique to the institution.

Consistent with the vision of the governor, FY 2013 would be established as the baseline year for data collection and building of support for establishing performance funding with funding first being requested for the FY 2014 budget. All performance measures will be evaluated based on a three-year rolling average with success being defined for each institution individually as improvement over that institution's performance from the previous year, or, when applicable, maintenance of a high level of performance in relation to a previously established and externally validated threshold. The base year for each measure will itself also represent a three-year average, and all numbers will be expressed in tenths.

Performance funding will apply to a portion of new appropriations from the state, and it will not be applied to existing base appropriations. Institutions will have the same complete flexibility regarding spending decisions with the money provided through performance funding as exists with current state appropriations. Furthermore, funding earned through performance in one year will be added to an institution's base the following year. Consequently, the recommendation is that total funding allocated on the basis of performance will not exceed approximately 2% to 3% of an institution's total state funding in any given year.¹¹

Table 3 | **Guiding Principles for Developing and Establishing Institutional Performance Indicators**

Guiding Principle	Definition
Credibility	The performance indicators should have internal and external credibility among all institutional stakeholders.
Linkage to Mission, Strategic Plan, and Policy Goals	The performance indicators should incorporate and reinforce institutional missions and strategic plans, as well as broad policy goals.
Stakeholder Involvement and Consensus	The performance indicators should be developed through negotiation and consensus among key stakeholders.
Simplicity	The performance indicators should be simple to convey and broadly understood.
Reliant on Valid, Consistent, and Existing Information	The performance indicators should be based on data that are valid and consistent and that can be verified by third parties when necessary. The indicators should also be based on established data sources <i>where possible</i> in order to maximize credibility and minimize additional workload.
Recognizes Range of Error in Measurement	The performance indicators should be established with wide recognition that there are certain unavoidable ranges of error in any performance measurement activity.
Adaptable to Special Situations	The system of performance indicators should accommodate special institutional circumstances where possible.
Minimizes Number of Indicators	The performance indicators chosen should be kept to the smallest number possible in order to minimize conflicting interactions among the indicators and to maximize the importance of each indicator.
Reflects Industry “Standards” and “Best Practices”	The performance indicators chosen should reflect “industry” norms and standards where possible in order to allow for benchmarking and peer comparisons.
Incorporates Input, Process, Output, and Outcomes Measures	The performance indicator system developed should have a balance of measures related to institutional inputs, processes, outputs, and outcomes.
Incorporates Quantitative and Qualitative Measures	The performance indicator system developed should incorporate both quantitative and qualitative measures in order to present the most complete picture of institutional performance possible.

Guiding Principles in a Performance Funding System

The Missouri proposal is noteworthy because it conforms to the best practice principles for a performance funding system. The driving force behind any performance-based funding model is the desire to establish a formal link between institutional performance and funding received. These are ultimately translated into a system of performance indicators on which the allocation is based. The concept of what is a “best practice” in measuring the performance of higher education institutions continues to evolve. However, there are a number of guiding principles that are generally accepted as “good practice” in the development of institutional performance measurement mechanisms. Table 3 outlines 11 guiding principles that are presented in no particular order of importance. The process for developing and establishing a system of performance indicators is unique to every enterprise; however, all of these principles need to be considered during this process to ensure a successful and effective outcome.

These guiding principles have a number of corollaries that should be considered as well:

- The expectations for institutional performance should be clearly understood and stated at the outset. Organizations can only “improve” if there is an understanding of the priorities for organizational performance. Clearly, the priorities should grow out of organizational mission and goals, however it is important that these be understood and agreed to by key participants at the beginning of the process.
- The starting place for institutional performance measurement and benchmarks for success varies among institutions. Because each institution operates within its own context, the beginning point for institutional performance measurement will also vary depending on the specific performance indicator. Using “graduation rate” as an example, one institution may be at 45% for a six-year graduation rate while another may be at 85%. Because

these types of variances can be due to a variety of potentially valid reasons, no value judgment should automatically be attached.

- “Continuous improvement” is not infinite. A related issue that must be dealt with in establishing performance measurement mechanisms is the fact that the rate of “improvement” in any given area is non-linear. Institutions may be able to make great strides toward improving certain operational or programmatic areas initially, but then come to a standstill. Or, an institution may move forward in another area and then falter for a period of time. In short, it is important to realize that the process of enhancing institutional performance is imprecise at best and that to expect institutions to “continuously improve” is unrealistic.
- Performance measures should not be developed only with available data systems in mind. Implementing a system of institutional performance measurement requires data to be available. In fact, most institutions develop performance measures with this in mind. This practice has both positive and negative consequences. The ability to work with existing data systems reduces the start-up time and cost to implement a performance indicator system. It also improves the comfort level of those involved, and thus the credibility of the process. On the other hand, limiting an institution’s performance measures according to data availability may not result in the most appropriate or meaningful set of measures in the long run. Thus, notwithstanding the benefits of using existing data systems, the development of performance measures should recognize the current availability of data where appropriate, but should be primarily driven by the questions, “what are we trying to measure”, and “why”?


The Missouri task force developing this proposal considered all of these factors in its deliberations, and proposed a system that meets the criteria for an excellent system of performance. In addition to that, the measures developed in Missouri are sensitive to the political realities of the 21st century funding for higher education.

Conclusion

Not all state performance funding systems meet the best practices criteria mentioned above. They are products of political compromise with all of the inherent problems in compromises. Some of the earlier performance funding initiatives adopted by states were not continued for various reasons, including both political and financial. However, there are some characteristics that are common to successful “new” performance-based funding programs:

- Involvement and input from state governing or coordinating boards;
- Involvement of legislative and executive branches of state government;
- Recognition of the state’s financial capacity and economy;
- Accent on both institutional improvement and accountability;
- Sufficient time allowed for both planning and implementation;

- Involvement of the faculty and staff in assuming responsibility for “success” in meeting the goals;
- Excellent data systems that provide defensible and accurate information;
- Indicators related to state or local goals and needs;
- Recognition of and measures related to meeting student needs;
- Use of a limited number of indicators;
- Recognition and protection of institutional diversity and mission.

Only time will tell if the new performance funding will be successful in meeting the needs of the state, the local economy, and simultaneously the needs of students. This will be a continuing challenge in the next ten years. 

Endnotes

¹ U.S. Department of Education, *A Test of Leadership: Charting the Future of U.S. Higher Education*, a report of the commission appointed by Secretary of Education Margaret Spellings (Washington, DC: The Secretary of Education’s Commission on the Future of Higher Education, 2006).

² Brenda Albright, “Reinventing Higher Education Funding Policies: Performance Funding 2.0 – Funding Degrees,” a paper for the Making Opportunity Affordable Initiative of the Lumina Foundation (Indianapolis, IN: 2010).

³ Ibid., 1.

⁴ Momentum points are specific times in a student’s college experience where completion or passage of that point gives the student the “momentum” to move on to achieve greater goals.

⁵ Indiana Commission for Higher Education, *Final Report on 2009-11 As-Passed Higher Education Budget* (Indianapolis, IN: August 14, 2009).

⁶ Louisiana Board of Regents, “Learn More, Earn More, Be More: The Formula for Enriching Louisiana,” paper presented to the Louisiana Association of Institutional Researchers (Baton Rouge, LA: August 4, 2010).

⁷ Richard Petrick, *Funding Based on Course Completions: The Ohio Model* (Columbus, OH: Ohio Board of Regents, April 22, 2010).

⁸ Ohio Board of Regents, *State Share of Instruction Handbook* (Columbus, OH: September 30, 2010), http://regents.ohio.gov/financial/selected_budget_detail/operating_budget_1011/handbook-cc.pdf.

⁹ Texas Higher Education Coordinating Board, *Texas Higher Education Finance and the Formulas* (Austin, TX: April 29, 2010).

¹⁰ Washington State Board for Community and Technical Colleges, “Student Achievement Initiative,” http://www.sbctc.ctc.edu/college/e_studentachievement.aspx.

¹¹ Missouri Department of Higher Education, *Performance Funding Model: Recommendations of the Performance Funding Task Force* (Jefferson City, MO: Coordinating Board for Higher Education, April 5, 2012).



But Where Will the Money Come From? Experts' Views on Revenue Options to Implement *Campaign for Fiscal Equity v. State of New York*

Osnat Zaken and Jeffery Olson¹

Osnat Zaken is Associate Professor and Director of Assessment and Testing at Touro College. Her research focuses on the finance of education.

Jeffery E. Olson is Associate Provost and Associate Professor of Administration and Supervision and Library and Information Science at St. John's University. His research focuses on the economics of education.

In 2003, the New York State Court of Appeals, the highest court in New York, upheld a trial court decision that funding for public education in New York City was unconstitutional and decreed that the state needed to increase operating aid to school districts by \$5.6 billion per year (*Campaign for Fiscal Equity, Inc. v. State of New York* 2003). Subsequently, the Institute on Taxation and Economic Policy published a quantitative study, *Achieving Adequacy: Tax Options for New York in the Wake of the CFE Case* (Cabalquinto and Gardner 2005). The qualitative study described in this article serves as a complement by consulting a group of experts for recommendations on the best revenue options for New York to generate this level of new education funding.

Specifically, our study was guided by three research questions: (1) How should New York State increase funding for New York City public schools; (2) What share should come from the state, and what from the city; and why should the state raise revenue through one mechanism or another? To answer these questions, the authors interviewed 12 experts knowledgeable about economics, public policy, politics, finance, commerce, and governance, and familiar with education funding in both New York City and the state. Public finance theory guided the framework analysis. The article begins with background on the *Campaign for Fiscal Equity* case. In the second section, research methods are described while the third section reports results. The article closes with a summary and policy recommendations.

Background of the Study

The court of appeals gave the state of New York a deadline of November 30, 2004 to comply with its findings for additional funding. When the state did not comply, the trial court appointed three referees to submit a compliance plan. These referees recommended \$5.6 billion in operating aid and \$9.2 billion in capital funding, which was affirmed by the trial court. The court left to the state how the additional funding was to be raised, including the division of responsibility between the

state and New York City. In March 2006, the appellate division ordered the state to provide between \$4.7 and \$5.63 billion in operating aid and \$9.2 billion in capital funding in the next state budget (*Campaign for Fiscal Equity, Inc. v. State of New York*, App Div 2006). The state again appealed the decision to the New York State Court of Appeals, resulting in a substantial reduction in the required operating aid to a minimum of \$1.93 billion, adjusted for inflation and the cost of education (*Campaign for Fiscal Equity, Inc. v. State of New York* 2006). This was met by the 2007-2008 state school budget and reform legislation.² This study was undertaken subsequent to the trial court approval of the referees' recommendation of an increase of \$5.6 billion in operating funds.

Research Methods

This study used the method of framework analysis, which is designed to identify key issues and perspectives through semi-structured interviews using *a priori* concepts (Richie and Spencer 1994). The following eight steps were followed by the authors: (1) Familiarization with the data through review, reading, and listening; (2) transcription of tape-recorded material; (3) organization and indexing of data for easy retrieval and identification, based on public finance theory; (4) anonymizing of sensitive data; (5) coding; (6) identification of themes; (7) re-coding; and (8) report writing, including excerpts from original data if appropriate such as quotes from interviews. Interviews were uploaded to version 5.0 of ATLAS.ti, a qualitative analysis tool; transcribed; coded; and analyzed. This software enables researchers to handle relatively large amounts of material and relate them to theory.³

Twelve experts, representing various academic, legislative, business, and political perspectives, were selected based on their knowledge of or experience with the funding of education in New York City and New York State. They are listed below in alphabetical order with their titles at the time of the interviews. Their names are used with permission, although quotations were not attributed individually:

- Casey Cabalquinto, Policy Analyst, Institute on Taxation and Economic Policy;
- Norman Fruchter, Director, Institute of Education and Social Policy at New York University;
- Carol Gerstl, Counsel for Legislation and Special Projects, United Federation of Teachers;
- Alan Hevesi, Comptroller, State of New York;
- Seymore Lachman, Professor, Adelphi University and Past President, New York City Board of Education;
- Carl McCall, Former Comptroller, State of New York;
- Edmund J. McMahon, Senior Fellow for Tax and Budgetary Studies, Center for Civic Innovation, Manhattan Institute;
- Frank Mauro, Executive Director, Fiscal Policy Institute;
- Joseph E. Stiglitz, Noble Prize Laureate, Economic Sciences and Professor, Columbia University;
- George Sweeting, Deputy Director, New York Independent Budget Office
- Glenn Von Nostis, Director, Office of Policy Management, Office of the New York City Comptroller;
- Dennis Walcott, Deputy Mayor, New York City.

Each interview lasted an hour. Experts were asked a series of questions related to the study's research questions, as follows:

- (1) New York State must raise \$5.6 billion for education. Where, in your opinion, should the funding come from? Attached is a list of options from the Institute for Taxation and Economic Policy. (See Appendix.) Which would you select? Why did you choose these?
- (2) What effect would this have on various income levels: Low, medium, high?
- (3) How will such a change alter people's behavior?
- (4) How important is it economically for New York City to increase funding for education?
- (5) As an expert or investor, what would be the implications of raising the following taxes: Sales tax, income tax, lottery, corporate income tax, and property tax?
- (6) Would that raise \$5.6 billion?
- (7) If this were the best of all possible worlds, and you could have whatever you wanted, how would you finance education in New York State?

Results

Three questions emerged from the expert interviews as centrally important to a consideration of the funding issue. They are, as follows:

- (1) What share should come from the state, and what from the city?
- (2) How should the state increase funding for New York City public schools?
- (3) Why should the state raise revenue through one mechanism or another?

As such, this section is divided into three parts.

(1) What Share Should Come from the State, And What from New York City?

Ten of the 12 experts agreed that the funding should, and probably would, have to come from both the state and the city. The remaining two experts asserted that the state should provide the entire amount. Generally, the experts agreed that the amount of money needed to comply with the court ruling could be raised without too much difficulty through spending cuts and increased revenues. The main obstacle to raising funds was the political will to make the hard choices required to make education a priority. Here are representative quotations:

What I would want to see is a state assumption of education funding. Full state assumption of funding of education... [t]he problem [is] how you recalibrate the tax system in order to do that... [Additionally, it should be considered] what localities get from that based on a different set of formula than simply property wealth.

The state has to look at how it deals with the court order, but the city has continued to increase its level of funding to the school system and it has increased the operating side of the funding over the last three or three and a half years by roughly three billion, and on the capital side it has increased the spending by two billion. Again, it's the state that has to meet its obligations.

I bet some chunk of it will not be paid for by the state. The state will mandate that the city kick in its share. It might be 33%, two to one match.

To get [necessary revenues] from one tax would almost be absurd. It's going to come from a combination... It could come from program cuts or service cuts. Can New York raise \$5.6 billion? Yeah, easily; however, it's not so much the math that needs to be worked out, it's the politics that have to be worked out.

The assumption around CFE is that it's all a state problem. I think even [the] CFE, [in] some of their testimony and position papers, have indicated that they acknowledge that some part of it may have to come from the city. They have thrown around approximately 25%.

I think there needs to be a balance of state and local funding for education; there needs to be a local role in education. It should not be purely state funded... I think it should be a divide between the state and the locality.

The majority would have to come from the state. State funded education. We want them to fund it but not control it. The school board controls the schools but you get the funding from the state.

(2) How Should the State Raise the Revenue?

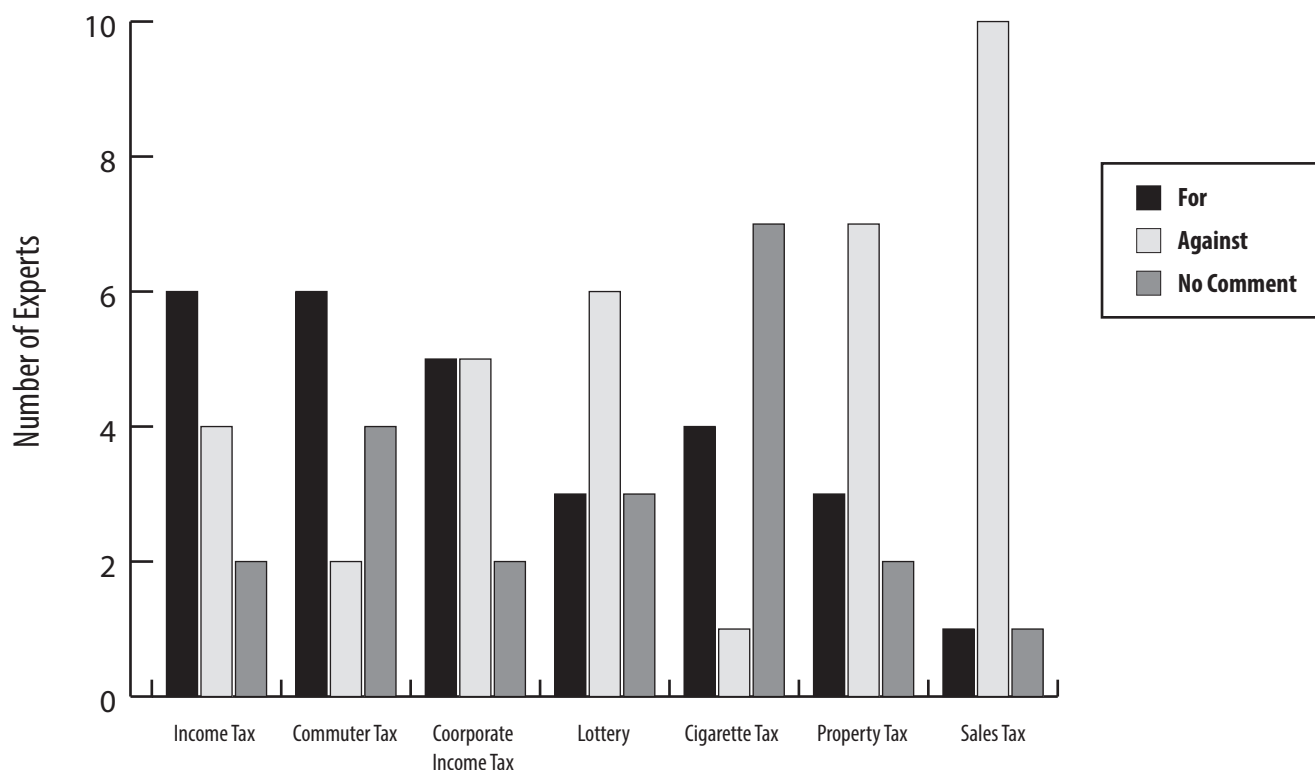
Experts shared some common opinions about increasing funds. Increasing the state income tax, primarily through restoring its progressivity, and reinstating the local commuter tax, received the broadest support. Not surprisingly, the six experts who supported reinstating the commuter tax were New York City residents. Increasing sales tax and property tax received the least support. Responses are summarized in the Figure.

(3) Why Should the State Raise Revenue Through One Mechanism or Another?

This question was answered through experts' analyses of the primary types of taxes utilizing the following public finance constructs: base, yield, equity, economic effect, and political acceptability. Even though the experts were asked to address these explicitly, their responses did not always address them thoroughly.

Tax Base and Yield. Responses related to tax base and yield were combined into one subsection because experts generally linked the two concepts. Tax base is the entity to which a tax rate is applied. There are four major tax bases: wealth, income, sales of goods and services, and privileges (Brunori 2001). Yield is the amount of revenue a tax will produce. Yield is the product of tax rate times tax base. A focus of experts' answers was the opportunity to increase revenue through broadening a particular base, e.g., by closing corporate loopholes. Responses also addressed the need for a base large enough to raise sufficient revenue.

Figure | **Experts' Views on Increasing Various Taxes**



With one exception, the experts agreed that the state and city could raise the required \$5.6 billion; however, they were divided as to what combination of taxes would be best to achieve this goal. This choice depends not only upon determination of which tax options would generate sufficient funding, but also upon the political and economic feasibility of raising taxes. The experts' major concern with raising the top marginal state income tax rates related to the competitive disadvantage that would be placed on the state economy and the relative advantage for other states. This imbalance could cause the economy to deteriorate, increasing the difficulty of raising the needed funds. Below are representative quotations:

You do what you have to do to get to that number. If you did the variety of things that I talked about, such as increasing income tax, increasing commuter tax, we could get there.

I think we have to change the tax structure, and it's still hard to do. I don't think it's a combination of taxes, but the restructuring of our [income] tax structure.

I think that closing corporate loopholes should be done as a start, but that's not going to raise a lot of money... Under New York law, banks and business corporations create real estate investment trusts as subsidiaries and it's a way to siphon money out of the tax system, so... close that loophole [and] that will create \$155 million; [close] corporate loopholes [which] will raise about a billion dollars.

I think the property tax is very unpopular... [and] what we need is property tax reform, broaden the base, eliminate a lot of the exemptions, and improve assessment practices.

I would take it away from property taxes, I would find a different set of measures that are more equitable, and broader based, and get you closer to doing away with the variation which exists from locality to locality.

Equity. Tax equity addresses issues of tax fairness and fair, equitable treatment of individuals and businesses. In tax policy, "...fairness is traditionally described as horizontal and vertical equity" (Brunori 2001, 19, citing Reese 1980). Horizontal equity requires equal taxation of people with equal ability and unequal taxation of people with unequal ability (Musgrave 1959; Brunori 2001). Vertical equity requires that taxation of different persons should differ based primarily on their ability to pay (Musgrave 1959). Progressive taxes have rates that increase as the ability to pay increases. Regressive taxes have rates that decrease with ability to pay. Representative quotations addressing these aspects of equity are presented here. Because equity responses focused on income tax, property tax, and sales tax, they are listed separately.

[C]learly, the whole purpose of the Institute for Taxation and Economic Policy...is a shift of burden to higher income; it's a soak the rich approach...[The] Institute for Taxation and Economic Policy's problem there...is that we already, on a state and city basis,

are overly dependent on a very narrow pinnacle of very wealthy people, and we tend to treat them as the goose that lays the golden eggs that will never die and never go away.

We have to think about who it penalizes...Given how we structure taxes, that there is no [STAR] exemption for renters, in other words, it would penalize renters.⁴ Maybe you might want an income tax that included a component of property wealth, because otherwise if you do it purely on income then you penalize the people who have limited wealth or no wealth in terms of property wealth, you're taxing everything they've got, whereas [with] the property owner all you tax is the income.

[T]o promote economic growth here and to reverse the stunning demographic leakage from New York State, which is steady and ongoing and involves all parts of the state, not just upstate, we need to promote economic growth, and we're not going to do that by promoting higher taxes.

The wealth is taxed to the hilt by the city, in the form of the massive corporate and property taxes the state levies on all of the real estate and business activities in Manhattan south of 96th Street.

What I would want to see is a state assumption of education funding. Full state assumption of funding of education, then the problem of how you recalibrate the tax system in order to do that, and then what localities get from that based on a different set of formula than simply property wealth.

Representative quotations related to state income tax

My preference...is by restoring progressivity to the income tax and the proposal which...shows... you can do this in a logical way is by recreating the 1972 income tax rates indexed to inflation. That is in the Institute for Taxation and Economic Policy report but also in our budget briefing book. You could say that what we've done so far is preposterous because we have moved the tax burden onto the middle class... over the last three decades...we have eliminated brackets from the top and the bottom rather than indexing them for inflation.

Although there is great opposition, [the income tax is] the only tax that should be increased because it's a tax that people pay given their ability to pay. That's the fairest and the most equitable tax. I would be in favor of replacing the property tax with income tax, because the property taxes are varied and not everyone pays them.

Income Tax is generally a very progressive tax, which is the complete opposite of sales tax...This is an opposite of sales tax because it's not a stable revenue source when it grows it really grows, and when it goes down, it goes down. That's why if you have high

reliance on income tax, you need a stabilizing force like a moderate sales tax, or a rainy day fund so that when you have a drop in income, you just go to the needed funds to even everything out.

In New York State [corporate income taxes] have been going down as an overall share of the pot. Corporate income tax is important if you want progressive tax policies because it's based on the ability to pay, as well on the federal level as on the state, corporate income taxes have been going down. It's either statutory causes that made them go down or accountants are getting a bit more creative about paying the corporate income tax, but if you want a progressive tax system, this is a very important tax for you.

Representative quotations related to property tax

When you put New York City and State together, New York City raises more from local property tax than any other tax, so we have to reform the property tax. STAR attempted to deal with the unfairness of property tax, but it makes it more unfair, because if you have a million dollars [in] income and \$10,000 in property taxes, and your neighbor has \$100,000 income and \$7,000 in property taxes under STAR, if you live in the same school district, you get the same benefit, so STAR is not targeted to what the rhetoric is. The rhetoric is that people are being taxed out of their homes, but STAR gives you help whether you need it or not. We say on STAR that you can give more relief to people who need it at half the cost, if you create some sort of mean testing STAR exemption, or repealing it or modifying it with a circuit breaker concept.

Many renters don't think of themselves as paying a property tax, because it's the landlord who pays the bill but some portion of it...is passed on to the rent. So if you raise the [property tax] rate on buildings, some of it would fall on the tenants.

[They] are basically the people we've been talking about, that six-figure middle class...two-earner couple or family homeowners in Long Island, Westchester, Rockland, Putnam. That's lower Hudson Valley, and pockets of similar suburbs, affluent suburbs, in two or three places upstate. They pay very high school taxes, and it's part of this whole package that they've bought into, which is, we spend therefore we're good therefore it props up the house price therefore it must be worth it. But I don't like the tax bill. It's kind of the circle that goes on...They are increasingly stressed...You take STAR away, and you basically are dealing with a really full blown revolt... There has to be a reassessment of what we spend on education and how we spend it and what we're getting for it.

Property tax is really tricky no matter what you do. They are generally regressive because they are not based on ability to pay; they are based on home

value, and home values tend to eat up a larger chunk of lower and middle income wealth than higher income wealth.

Representative quotations related to sales tax

Sales tax is regressive in general. You will hit low and moderate income more so than wealthier households. If you just looked at raising the tax, sales taxes tend to be the most stable so you have a tradeoff, you will damage your vertical equity (equity based on the ability to pay), but it is a very stable revenue source.

Sales tax is not a good tax. I would not support increasing it because I don't think it's a fair tax, and it affects people adversely. It's not a progressive tax. It's not a tax that's based on income or ability to pay. Everyone pays across the board, and I don't think it's fair.

Raising the sales tax is the most regressive tax... the income tax takes more of your income as your income goes up. But the sales and excise tax are the most regressive because of the marginal propensity to consume, you'll consume more of your first \$30,000 to live than of your second \$30,000 in income, and that's from a fairness perspective.

If you raise the sales tax there is an equity concern because sales tax disproportionately hits the budgets of the lower income harder than it does higher income people. There is also some risk at eroding the tax base if people learn to evade it just by buying elsewhere.

Representative quotations related to other taxes

[I would increase] taxes on things like cigarettes and on pollution...and increase gasoline tax significantly.

I would want it designed as progressive with a set of provisions, so for instance, cigarette tax increase would not be progressive, but it would be a tax on social ill. I would also put environmental tax on. The whole point of it is to induce people to pollute less, and bear some of the costs they consider on others like those outside the city who take advantages of all the services provided by the city.

The lottery tax is a consumption tax and it also has social policy impacts. First, it's a tax based on people's hopes, expectations and desperations and it plays on the fact that not everyone has taken Statistics 101 or Probability...I believe it was in New Jersey where they did a lottery to fund education, and people thought it would be additional funding for education, but it wasn't the case. The lottery money wasn't going to be additional funding, it was going to replace the current revenue source, which was property and income, and these were going to go someplace else.... Lotteries in general are regressive and there are a lot of social and political implications that need to be thought out... also, as more states around New York have gambling, less people will travel into New York

and more might travel out of New York. The revenue that was forecasted could not be as much as they originally thought it was because now there's more competition . . . [which] brings lower revenue.

Economic Effect. Economic effect refers to how an increase in a tax will affect taxpayers' behavior, and the degree to which any changed behavior has an economic impact (Mill 1899). Below are representative quotations.

Income tax [is a] fairer tax, except you have to put into the questions the variable of mobility. People are mobile, they have second homes and reestablish their residences elsewhere. You might not get the tax increase from them, you may get no taxes from them. Particularly the wealthy people with good tax consultants will advise them how to beat this tax and if our taxes are higher than other states, or the highest in the region then it has a negative effect. You have to take this under consideration.

[O]ne of the important things to keep in mind when you're looking at these proposals...they assume that a lot of a state and local tax is deductible against a federal tax and that's increasingly not true in New York City because of the federal alternative minimum tax. More and more city taxpayers are subject to the federal alternative minimum tax and one of the things you lose is state and local deductibility...The amount is now about 8-9%, but by 2010 the number would go to 33%, [and] that's a phenomenal increase. It may not happen because there will be pressure in Washington to try to adjust that, although adjusting it in Washington would mean an annual cost to the federal government of something like \$500 billion.

The personal income tax rate on New York City residents is also the highest in the country. The state income tax rate effectively, on the vast majority of working New Yorkers is much higher than the state income tax, for instance, in New Jersey or Pennsylvania.

To promote economic growth here and to reverse the stunning demographic leakage from New York State, which is steady, ongoing and involves all parts of the state, not just upstate, we need to promote economic growth, and we're not going to do that by promoting higher taxes.

The challenge is to balance the economic priority of improving the schools with the economic priority of having a noncompetitive tax base.

I think there should be a state wide property tax with return to local communities based on considerations including local tax effort...The property tax base is in those communities in terms of what they should get back, would be a different way to proceed than [the way] we operate now.

Political Acceptability. Political acceptability refers to the ability of elected representatives to implement policies that the electorate will find acceptable and supportable (Mill 1899).

The politics of [increasing taxes for education] is that the strongest lobby of all the powerful lobbies in Albany is the education lobby comprised of all the local school districts, association of teachers and superintendents. So an increase...will be normal each year.

The property tax is the tax that people dislike the most, and it's regressive, [and] even though it's not as regressive as the sales tax, people dislike it more. They sense unfairness in it.

The implications of [raising] all [the taxes] are very serious. The political implications of raising the corporate income tax are lightest...The economic implications of raising the whole \$5.6 billion from the sales tax would probably be the largest.

It ought to come out of the general expense budget. It would be a priority in terms of all the various revenue streams that we have. You just collect them, and you say that education comes off the top. Again, I am not looking for any specific revenue stream just for education.

Summary and Recommendations

The revenue options which received the broadest support from the experts in this study were increased state revenues from the state income tax, primarily through more progressive rates, and increased revenues at the local level through reinstatement of the local commuter tax. The six experts who supported reinstating the commuter tax were New York City residents. There was also some support among the experts for shifting education funding from property taxes to income taxes. A sales tax increase received the lowest level of support given its regressivity coupled with the potential for tax avoidance behavior. In general, experts viewed the property tax as regressive, and some asserted that the STAR exacerbated its regressivity.

Two experts, with extensive political experience, postulated that the state would rely primarily on reallocating regular state revenue increases to New York City public schools rather than increasing any tax rates. Experts did not agree on the likelihood that tax increases would drive households and businesses from New York City or the state. One stated that tax rates were already so high that any increase would threaten more economic harm than benefit. Others stated that there was still room for increasing personal and corporate tax rates. There was more of a consensus around the potential issue tax avoidance with a sales tax increase.

As this study demonstrated, a qualitative approach can provide an opportunity to explore opinions, experiences, and judgments that triangulate with and complement quantitative analysis. This study also provided important information about the political and economic implications of a range revenue options. However, additional research needs to be done

on household and business responses to income tax rates and on sales and property taxes. These should be a combination of qualitative and quantitative analyses. Qualitative analyses should be done to explore attitudes in depth through focus groups and interviews. Quantitative studies should be done through surveys and modeling. There are opportunities to maintain funding for education in New York City and State with greater allocative efficiency.

This study also highlighted the interaction between expert opinion and political solutions. A court-appointed referee recommended an increase in operating aid of \$5.6 billion based on expert opinion. The experts believed, with one exception, that New York State could raise these funds through increased tax rates. Nevertheless, the legislature and governor funded a much smaller increase, about \$2 billion, with a commitment from New York City that it would increase funding for education, and did it by redirecting revenue increases that would otherwise have gone to other purposes. The political solution largely ignored the expert opinion. 📖

Endnotes

¹The authors acknowledge valuable suggestions from Sarah L. Olson and George Cohen.

²New York City agreed to increase funding for education as well.

³Even though ATLAS.ti and similar software facilitate qualitative data analysis and interpretation (selecting, indexing, coding, and annotating), their purpose is not to automate these processes. Automatic interpretation of text cannot succeed in grasping the complexity, lack of explicitness, and “contextuality” of everyday or scientific knowledge.

⁴STAR stands for “School Tax Relief Program.” It is a state program that provides property tax exemptions and state rebates for the primary residences of home owners. The basic tax exemption is available to people who live in their own homes without regard to income level. The advanced exemption is available to senior homeowners whose income does not exceed a statewide standard. The rebate is available to homeowners who earn less than \$250,000. For more information, see “NYC Finance,” <http://www.nyc.gov/html/dof/html/property/star.shtml>.

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Appendix | New York Tax Reform Options and Principles of Taxation

	Does Each Proposal Achieve...				
	Vertical Equity	Base-Broadening	Adequacy	Exportability	Neutrality
Revenue Raising Options					
Recreate 1972 Income Tax Rates	✓		✓	✓	✓
Make 2003 Temporary Rate Hikes Permanent	✓		✓	✓	✓
"Across the Board" Income Tax Increase	✓		✓	✓	✓
"Across the Board" Tax Hike, Credit Hike	✓		✓	✓	✓
Tax Unearned Income at a Higher Rate	✓		✓	✓	
Eliminate Retirement Income Exclusions	✓		✓	✓	✓
Limit Dependent Care Credit Eligibility	✓	✓	✓	✓	✓
Temporary City Income Tax Surcharge	✓	✓	✓	✓	✓
Re-Enact New York City "Commuter Tax"	✓	✓	✓	✓	
New Progressive Commuter Tax	✓	✓	✓	✓	
Reinstate 0.5 Percent Stock Transfer Tax	✓	✓	✓	✓	
Close Corporate Loopholes	✓	✓	✓	✓	✓
Eliminate Sales Tax Exemptions (Services)		✓	✓		✓
Eliminate Sales Tax Exemptions (Goods)		✓	✓		✓
Sales Tax Rate Hike			✓		
Expand Sales Tax Base, Sales Tax Credit		✓	✓		✓
Statewide Property Tax			✓	✓	
Means-Tested STAR Exemption	✓	✓	✓	✓	
Repeal STAR, Expand Circuit Breaker	✓	✓	✓	✓	✓
Cigarette Tax Increase					
Increase Gasoline Excise Tax					
Expand New York Lottery					



Ohio's At-Risk Student Population: A Decade of Rising Risk

Randall S. Vesely

Randall S. Vesely is Assistant Professor of Educational Administration and Supervision at the University of Toledo. His area of specialization and research is public school finance.

Introduction

Educators face increasing demands to raise student achievement, to improve classroom instruction, and to demonstrate accountability in an environment of high stakes testing. However, meeting these demands is challenging in the face of numerous risk factors that jeopardize the academic success of elementary and secondary students. To that end, the identification of risk factors is an important first step in addressing these demands. This study took a longitudinal approach to the analysis, comparing the incidence of at-risk students in Ohio between the 2000-2001 and 2010-2011 school years¹ utilizing a research-based typology of risk factors to ensure consistency over time. The article begins with a brief literature review on the definition and identification of student risk factors. In the second section, research methods and data sources are described while the third presents results of the statistical analysis. The article closes with a summary of findings and conclusions.

Defining and Identifying Student Risk Factors

A review of the literature reveals multiple and often interconnected definitions of student risk factors. In general, however, student risk factors are often associated with individual, family, community, and school characteristics. In 2000, Janosz, Blanc, Boulerice, and Trembla defined at-risk students as those who exhibited academic, behavioral, or attitudinal problems that led to school dropout.² The authors suggested that "...risk factors for school dropout can be found in all spheres of children's social development and include personal, interpersonal, and contextual factors (e.g., poverty, community, school characteristics)."³ In 2001, Barr and Parrett argued that student risk factors included living in poverty, membership in a minority race or ethnic group, first language acquisition other than English, single-parent family composition, low level of parental education, and rural geographic status.⁴ More generally, Suh, Suh, and Houston defined risk as "...aspects of a student's background and environment that may lead to a higher risk of her or his educational failure," stating that "...for educators and counselors concerned with the well-being of society, school,

and family, and, particularly, the individual student, identifying the predictors of high school failure is a critical task.”⁵

The No Child Left Behind Act of 2001 has drawn considerable attention to students at risk of school failure and dropout in America’s public schools.⁶ Included under the definition of at-risk students in this law are students from low socioeconomic backgrounds, ethnic minorities, students with disabilities, and students whose second language is English.⁷

Prince, Pepper, and Brocato⁸ and Prodente, Sander, and Weist⁹ identified homelessness, adolescent pregnancy, and mental health or behavioral problems as significant risk factors affecting academic achievement. According to Pruett et al., students with these challenges on average scored lower than their peers on standardized tests and were more likely to drop out of school.¹⁰ However, the study of homelessness, adolescent pregnancy, and mental health are complicated by difficulty in obtaining access to and consent from these populations.

In 2002, Stringfield and Land defined at-risk students as those “...who, through no fault of their own, are at risk of low academic achievement and dropping out before completing high school.”¹¹ In one of the volume’s chapters, Land and Legters operationalized this definition by identifying seven risk factors ascertained from a comprehensive review of research.¹² These represented the most frequently cited individual or family-level risk factors: disability; poverty; limited English proficiency;¹³ race/ethnicity; urbanicity;¹⁴ single parent status; and low parental educational attainment. These represented the most frequently cited individual or family-level risk factors. Of the seven factors, Land and Legters found poverty to be the most consistent predictor of academic failure, with the concentration of poverty at the school level exacerbating the problem.^{15, 16} Land and Legters also identified another dimension of student risk—the “compound nature” of risk whereby some students experience multiple risk factors.¹⁷ Because Stringfield and Land and Land and Legters provide a clear definition of student risk and a comprehensive research-based typology, these were used in this study.

Research Methods

This section presents the population, data sources, variables, and analytic procedures used to answer the following research questions:

- To what extent has the incidence of at-risk students in Ohio changed over the last decade?
- What is the current incidence of at-risk students in Ohio?

This study analyzed 604 Ohio public school districts. The study did not include the four extremely small districts of Kelly’s Island, North Bass Island, Middle Bass Island, and Put-in-Bay Island. The College Corner school district was also excluded because it is a joint school district with Indiana. The district served as the unit of analysis.¹⁸ Data for the 2000-2001 and 2010-2011 school years from the Ohio Department of Education were utilized. Six variables were used in the study: (1) Total student enrollment; (2) number of students with disabilities; (3) number of students living in poverty; (4) number of students identified as English Language Learners (ELL);¹⁹ (5) number of ethnic/racial minority students; and (6) number of students in urban school districts.

Students with disabilities were defined as those having an Individual Education Plan (IEP) while students living in poverty were defined as those who qualified for free or reduced-price school meals. Urban school districts are defined by the Ohio Department of Education in two manners: (1) “...urban (i.e. high population density) districts that encompass small or medium size towns and cities;” and (2) “Major Urban” school districts that include “all of the six largest core cities and other urban districts that encompass major cities.”²⁰ Data for parental education attainment and single parent status by school district were not available and so could not be included in the study. Using the data described in this section, descriptive statistics and the incidence of risk factors were calculated and compared for 2001 and 2011. Then, Pearson Product Moment correlations were calculated to determine the presence and extent of the compound nature of risk in both years. Finally, the incidence of risk factors was calculated as the percentage of students identified with a particular risk factor divided by total student enrollment.

Results of Analysis

In 2001, Ohio educated 1,727,611 public elementary and secondary students in 604 school districts. (See Table 1.) School district size ranged from 313 to 72,277 students, with a mean district enrollment of 2,860 and a median of 1,781. In 2011, total student enrollment decreased 5.87% to 1,626,068 students. Minimum and maximum district size fell to 175 and 49,616 students respectively, while the mean and median decreased to 2,692 and 1,738. Overall, total student enrollment, the size of the mean and median school district, and size of the smallest and largest school districts decreased over this time period. The remainder of this section presents the results for each risk factor, the compound nature of risk, and the incidence of risk factors.

Table 1 | Total Student Enrollment by District

Descriptive Statistics	Enrollment by Year	
	2001	2011
Minimum	313	175
Maximum	72,277	49,616
Range	71,964	49,441
Mean	2,860	2,692
Median	1,781	1,738
Standard Deviation	5,001	3,816
Sum	1,727,611	1,626,068

N = 604

Disability

In 2001, Ohio educated 213,664 students with disabilities. (See Table 2.) Enrollment by school district ranged from 31 to 10,937 with a mean enrollment of 354 and a median of 203. Over the ensuing decade, enrollment of students with disabilities rose to 239,954, an increase of 26,290 or 12.3%. While the minimum enrollment increased slightly to 35, the maximum enrollment by district fell to 9,878. The mean and median increased to 397 and 243 students respectively.

Poverty

Ohio enrolled 435,675 low income students in 2000. (See Table 3.) By school district, enrollment ranged from zero to 68,715, with a mean of 721 students and a median of 231. Over the next ten years, the number of students in poverty skyrocketed to 698,365, an increase of 262,690 or 60.3%, while the mean and median increased to 1,158 and 623 students respectively. The large difference between the mean and median may reflect the presence of a cluster of high poverty school districts in the state.

English Language Learners

In 2001, Ohio enrolled 13,252 ELL students. (See Table 4.) Enrollment by school district size ranged zero to 3,045, with a mean enrollment of 22 and a median of zero. In 2011, the enrollment of ELL students more than doubled to 32,613, an increase of 19,362. While the minimum remained the same, the maximum enrollment by district grew to 4,821. At the same time, the mean increased to 54 and median remained at zero.

Racial/Ethnic Minority

Ohio schools enrolled 344,635 racial/ethnic minority students in 2001. (See Table 5.) District enrollment ranged from zero to 58,668, with a mean enrollment of 571 and a median of 49. In 2011, the number of ethnic/racial minority students attending Ohio schools increased to 383,741, an increase of 39,106, or 11.3%. While the minimum increased slightly, the maximum enrollment by district fell by 21,788. The mean and median increased to 635 and 100 students respectively. The large difference between mean and median enrollments points to an uneven distribution of ethnic/minority students across Ohio school districts with relatively high concentrations in a small number of school districts.

Urbanicity

In both years studied, 118 school districts were classified as urban by the Ohio Department of Education. (See Table 6.) In 2001, urban school districts educated 625,798 students. Enrollment by school district size ranged 424 to 72,277 with a mean enrollment of 5,349 and a median of 2,725. In 2011, the number of students in urban school districts decreased significantly to 504,434, a decrease of 121,364 or 19.4%. The minimum increased to 437 while the maximum enrollment decreased to 49,616. The mean and median decreased by approximately 1,000 and 100 students, respectively.

Table 2 | Students with Disabilities: Enrollment by Year

Descriptive Statistics	Enrollment by Year	
	2001	2011
Minimum	31	35
Maximum	10,937	9,878
Range	10,906	9,843
Mean	354	397
Median	203	243
Standard Deviation	707	690
Sum	213,664	239,954

N = 604

Table 3 | Students in Poverty: Enrollment by District

Descriptive Statistics	Enrollment by Year	
	2001	2011
Minimum	0	0
Maximum	68,715	43,197
Range	68,715	43,197
Mean	721	1,158
Median	231	623
Standard Deviation	3,501	2,920
Sum	435,675	698,365

N = 604

Table 4 | Limited English Proficient Students: Enrollment by District

Descriptive Statistics	Enrollment by Year	
	2001	2011
Minimum	0	0
Maximum	3,045	4,821
Range	3,045	4,821
Mean	22	54
Median	0	0
Standard Deviation	137	268
Sum	13,252	32,613

N = 604

Compound Nature of Risk

Tables 7 and 8 present Pearson Product Moment correlation matrices of risk factor variables for 2001 and 2011. Correlation coefficients in Table 7 show the existence of a moderate, statistically significant positive correlation ($p < .001$) in 2001 between poverty and disability (0.319), with a smaller, but statistically significant, positive relationships between poverty and ethnicity/race (0.280), and ethnicity/race and English language learners (0.163). In 2011, the compound nature of risk was also evident. The statistically significant, positive correlation between poverty and disability was more pronounced (0.594) as was the relationship between poverty and ethnicity/race (0.375). Of particular concern was the statistically significant, positive relationship between race/ethnicity and English language learners which more than doubled over this time period to 0.350.

Incidence of Risk Factors

In 2001, urbanicity represented the largest risk factor in that it affected 36.2%, more than one-third, of Ohio students. (See Table 9.) Poverty was second at 25.2%. The incidence of ethnic/racial minority students, and those with disabilities, ranked third and fourth at 19.9% and 12.4%, respectively, while the incidence of students indentified as English learners ranked fifth, or last, at .77%. By 2011, the pattern of incidence had changed; now the incidence of student poverty ranked first at 43.0%, eclipsing the now slightly lower incidence of urbanicity (31.0%). Although the incidence of the remaining three risk factors increased, their ranking did not. The incidence of ethnic/racial minority students increased to 23.6% while that of ELL students almost tripled to 2.1%. The incidence of students with disabilities increased 2.4%, from 12.4% to 14.8%.

Summary and Conclusion

Although Ohio school districts have experienced nearly a 6% reduction in student population over the last decade, the incidence of at-risk students increased in all categories with the exception of urbanicity. Nonetheless, the incidence

**Table 5 | Racial Minority Students:
Enrollment by District**

Descriptive Statistics	Enrollment by Year	
	2001	2011
Minimum	0	2
Maximum	58,668	36,880
Range	58,668	36,878
Mean	571	635
Median	49	100
Standard Deviation	3,414	2,580
Sum	344,635	383,741

N = 604

Table 6 | Urban Student Enrollment

Descriptive Statistics	Enrollment by Year	
	2001	2011
Minimum	424	437
Maximum	72,277	49,616
Range	25,933	18,851
Mean	5,349	4,311
Median	2,725	2,657
Standard Deviation	10,175	7,014
Sum	625,798	504,434

N = 604

**Table 7 | Pearson Product Moment Correlation Matrix
of Risk Factors for 2000**

	DISABILITYPC	POVERTYPC	LEPPC
POVERTYPC	0.319*		
LEPPC	-0.050	0.021	
RACEPC	-0.131	0.280*	0.163*

*Statistically significant at the .001 level.

Note: DISABILITYPC = percentage of students with disabilities; POVERTYPC = percentage of low income students; LEPPC = percentage of students identified as limited English proficient or English language learners; RACEPC = percentage of student identified as ethnic/racial minorities.

**Table 8 | Pearson Product Moment Correlation Matrix
of Risk Factors for 2011**

	DISABILITYPC	POVERTYPC	LEPPC
POVERTYPC	0.594*		
LEPPC	-0.031	0.098	
RACEPC	-0.165	0.375*	0.350*


*Statistically significant at the .001 level.

Note: DISABILITYPC = percentage of students with disabilities; POVERTYPC = percentage of low income students; LEPPC = percentage of students identified as limited English proficient or English language learners; RACEPC = percentage of student identified as ethnic/racial minorities.

Table 9 | Incidence of Student Risk Factors

Student Risk Factors	Incidence by Year (%)		Percent Change (%)
	2001	2011	
Disability	12.4	14.8	2.4
Poverty	25.2	43.0	17.8
LEP	0.77	2.1	1.3
Racial Minority	19.9	23.6	3.7
Urbanicity	36.2	31.0	-5.2

of urbanicity in Ohio was 31% in 2011, similar to the national average.²¹ The incidence of student poverty as a risk factor in Ohio in 2011 (42.9%) was also similar to the 50 state average of 45.4%.²² In contrast, the incidence of English language learners was substantially lower – 2.1% in Ohio vs. the 50 state average of 9.6%.²³ At the same time, the incidence of Ohio students with disabilities in 2011 (14.7%) exceeded the 50 state average of 13.0%.²⁴ The incidence of ethnic/ racial minority students in Ohio (23.6%) was also substantially lower than the 50 state average of 46.5%.²⁵

Patterns of the compound nature of student risk in Ohio bore some similarities to the 50 state analysis of Vesely, Crampton, Obiakor, and Sapp.²⁶ Similar moderate, statistically significant correlations were found between the incidence of poverty and ethnicity/race, and between ethnicity/race and English language learners. However, although there was a moderate, statistically significant relationship between the incidence of poverty and disability in Ohio, none was found in the 50 state analysis. With these research results now available, future research can begin to analyze the extent to which Ohio focuses its resources on students at risk of academic failure in order to ensure equality of educational opportunity, a key component in addressing achievement gaps. 

Endnotes

¹Hereafter, the 2000-2001 school year will be referred to as 2001, and the 2010-2011 school year will be referred to as 2011.

²Michel Janosz, Marc Le Blanc, Bernard Boulerice, and Richard E. Tremblay, "Predicating Different Types of School Dropouts: A Typological Approach with Two Longitudinal Samples," *Journal of Educational Psychology* 92, no. 1 (March 2000): 171.

³Ibid.

⁴Robert D. Barr and William H. Parrett, *Hope Fulfilled for At-Risk and Violent Youth: K-12 Programs that Work*, 2nd ed. (Boston: Allyn and Bacon, 2001), 25.

⁵Suhyun Suh, Jingyo Suh, and Irene Houston, "Predictors of Categorical At-Risk High School Dropouts," *Journal of Counseling and Development* 85, no. 2 (Spring 2007): 196.

⁶No Child Left Behind Act of 2001, Public Law 107-110.

⁷Ibid.

⁸Debra L. Prince, Kaye Pepper, and Kay Brocato, "The Importance of Making the Well-Being of Children in Poverty a Priority," *Early Childhood Education* 34, no. 1 (August 2006): 21.

⁹Christine A. Prodent, Mark A. Sander, and Mark D. Weist, "Furthering Support for Expanded School Mental Health Programs," *Children's Services: Social Policy, Research, and Practice* 5, no. 3 (2002): 173.

¹⁰Marsha Kline Pruett, Larry Davidson, Thomas J. McMahon, Nadia L. Ward, and Ezra E.H. Griffith, "Comprehensive Services for At-Risk Urban Youth: Applying Lessons from the Community Mental Health Movement," *Children's Services: Social Policy, Research, and Practice* 3, no. 2 (2000): 66.

¹¹Sam Stringfield and Deborah Land, eds. *Educating At-Risk Students*, 101st yearbook of the National Society for the Study of Education (Chicago, IL: University of Chicago Press, 2002), vii.

¹²Deborah Land and Nettie Legters, "The Extent and Consequences of Risk in U.S. Education," in *Educating At-Risk Children*, eds. Sam Stringfield and Deborah Land, 1-28.

¹³Also referred to as English language learners (ELL).

¹⁴Land and Legters, "The Extent and Consequences of Risk in U.S. Education." Although Land and Legters considered the risk factor of urbanicity is multifaceted, they isolated it as an independent risk factor because students attending urban schools were at greater risk of poor academic outcomes than students attending suburban and rural schools even after taking into account factors such as race/ethnicity and poverty.

¹⁵Ibid., 13.

¹⁶Interestingly, some researchers have asserted that the impact of poverty on student performance may be, at least in part, a function of the multiple negative factors that are associated with poverty, rather than the risk factor alone. See, Gary W. Evans, "The Environment of Childhood Poverty," *American Psychologist* 59, no. 2 (February/March 2004): 77; and Marie E. Borrazzo, *The Impact of Teacher Conflict Styles on Student Discipline Outcomes: A Triangulation Study of the Symbolic Interaction of the Teacher as Agent within the School Organizational Structure* (Bloomington, IN: Author House, 2005), 6. For example, Borrazzo stated: "Poverty stricken families tend demonstrate a greater tendency to maltreat difficult children, thus children with learning disorders are bombarded with a double dose of negative interactions as they are maltreated at home and in school. Poverty stricken parents tend to use a higher rate of negative attributions when dealing with discipline interactions with their children."

¹⁷The literature identifies a positive relationship between the number of risk factors impacting a child and negative outcomes. See, Karen Appleyard, Byron Egeland, Manfred H.M. van Dulmen, and L. Alan Sroufe, "When More is Not Better: The Role of Cumulative Risk in Child Behavior Outcomes," *Journal of Child Psychology and Psychiatry* 46, no. 3 (March 2005): 235; Eirini Flouri, "Contextual Risk and Child Psychopathology," *Child Abuse and Neglect* 32, no. 10 (October 2008): 913; and Julie R. Morales and Nancy G. Guerra, "Effects of Multiple Context and Cumulative Stress on Urban Children's Adjustment in Elementary School," *Child Development* 77, no. 4 (July/August 2006): 908.

¹⁸The study did not include joint vocational or county districts.

¹⁹These students are also referred to as English language learners.

²⁰Ohio Department of Education, "Typology of Ohio School Districts" (Columbus, OH), <http://www.ode.state.oh.us/GD/Templates/Pages/ODE/ODEDetail.aspx?page=3&TopicRelationID=390&ContentID=12833&Content=89486>.

²¹In 2008, the latest national data available for urbanicity, the portion of total U.S. student population designated as urban was 29.4%. Source: U.S. Department of Education, National

Center for Education Statistics, Common Core of Data (CCD), *Public Elementary/Secondary School Universe Survey, 2007–08*. Percentages were calculated from Table A.1.a-3, “Enrollment of Public Elementary and Secondary Students, by Locale and State or Jurisdiction: School Year 2007–08,” <http://nces.ed.gov/surveys/ruraled/tables/a.1.a.-3.asp?refer=urban>.

²² This percentage was accessed using the U.S. Department of Education, National Center for Education Statistics “Table Generator” feature for the Common Core of Data, 2009-2010, <http://nces.ed.gov/ccd/elsi/tableGenerator.aspx>.

²³ Ibid.

²⁴ Ibid.

²⁵ Ibid.

²⁶ Randall S. Vesely, Faith E. Crampton, Festus E. Obiakor, and Marty Sapp, “The Role of States in Funding Education to Achieve Social Justice,” *Journal of Education Finance* 34, no. 1 (Summer 2008): 56-74.



K-12 Categorical Entitlement Funding for English Language Learners in California: An Intradistrict Case Study

Oscar Jimenez-Castellanos and Irina Okhremtchouk

Oscar Jimenez-Castellanos is Assistant Professor in the Mary Lou Fulton Teachers College, Arizona State University, and a 2012-2013 Ford Post-Doctoral Fellow administered by the National Academies. He has published extensively in the area of Latino education as it relates to resource allocation and its impact on opportunity and outcomes.

Irina Okhremtchouk is Assistant Professor, Division of Teacher Preparation in the Mary Lou Fulton Teachers College at Arizona State University. Her research interests include language minority students, school organization, finance, and preservice teacher assessment practices. She has over 12 years of experience as a teacher, program coordinator, child advocate, and school board member.

The K-12 student population is becoming increasingly diverse in the United States. In particular, the number of English Language Learners (ELLs) rose from 4.7 million in 1980 to 11.2 million in 2009, more than doubling from 10% to 21% of the student population (U.S. Department of Education n.d.). At approximately 1.8 million, the state of California enrolls the highest number of ELL students in the nation (Aud et al. 2012, 152). Of great concern is the achievement gap between ELL students and their English-only counterparts, one which remains substantial in spite of categorical entitlement funding programs designed to offset academic challenges faced by this population (Hemphill and Vanneman 2011). As a result, the effective allocation and expenditure of categorical entitlement funds at the local level are of much interest to the educational finance community and the field of education as a whole.

In this study, we analyzed the allocation and expenditure of funds from two categorical entitlement programs—Title III,¹ a federal program, and Economic Impact Aid (EIA),² a California state aid program—to provide services for ELL students at the district and school levels using a case study approach.

Background

Districts with a high percentage of African American students, Latino students, and students from low socioeconomic backgrounds receive and spend more money than other districts, in part due to the availability of categorical resources targeted to these student populations (Loeb, Bryk and Hanushek 2007); yet the achievement gap between these groups of students and their white counterparts persists and is substantial, especially in urban districts (Hemphill and Vanneman 2011). As Rodriguez (2004) noted, after years of educational reforms and policy change, it is still exceedingly rare to find schools serving large concentrations of diverse student populations with high levels of academic achievement.

Given their targeted nature, categorical aid programs are designed to focus funding on specific populations and the challenges they face. Entitlement categorical programs differ from other categorical programs in that an apportionment under entitlement guidelines is based upon a set of specific qualifications or formulas defined in statute. Funding for entitlement categorical programs is generally stable, noncompetitive, and guaranteed in those cases where a local educational agency meets statutory guidelines. Currently, there are two entitlement categorical funding programs designed to serve English language learners in the state of California—Economic Impact Aid (EIA), which is state funded, and Title III, which is federally funded.

EIA is designed to provide supplemental services for ELLs and low socioeconomic status students from kindergarten through grade 12. More specifically, EIA is designed to support additional supplemental programs and services for ELL and state compensatory education (SCE) services for educationally disadvantaged students as determined by the local education agency. EIA funds focus on ELL populations to promote proficiency in the English language as rapidly as possible and to support programs and activities to improve the overall academic achievement of ELL students (California Department of Education 2011a).

Title III is a federal categorical program that provides funds for supplemental services to limited English proficient (LEP)³ students and immigrant students. Its purpose is to ensure that all LEP students attain English proficiency, develop high levels of academic attainment in English, and meet the same challenging state academic standards as all other students. To support this goal, the U.S. Department of Education allocates Title III funds to state educational agencies, such as the California Department of Education, to provide subgrants to eligible LEAs based on the number of LEP students enrolled (California Department of Education 2011b).

Methodology

Case study methodology was used in this study of three schools in one California school district (Yin 2003). Due to funding and time limitations, one elementary school, one middle school and one high school within the district were selected out of a total of eight elementary schools, two middle schools, and three high schools. Data were collected from multiple sources in a systematic manner over a one-year period, the 2007-2008 school year.

The study was guided by two research questions: (1) How does the district allocate Title III and EIA funds, and, what key factors play a role and drive these allocations; and (2) How do school sites spend their entitlement categorical funds, and what are the differences among schools in how these funds are spent? Multiple data sources were used to answer the research questions. It was essential to triangulate these data sources to clarify findings and strengthen the analysis.

A five-step data collection procedure was followed. In the first step, available data were collected pertaining to direct student services, such as class enrollment information and supplemental services logs,⁴ to determine the nature and extent of supplemental services to ELLs. District and school

electronic enrollment data were collected as well as data identifying supplemental services offered by either a specialist on site or an instructional assistant. In addition, a simple yes/no determination of whether each eligible ELL student was being provided services was made. For the second step, district expenditure reports were collected. Included were budgetary assumptions, revised budgets with midyear adjustments, and final expenditures with verified adjustments or end-of-the-year "actuals." District expenditure reports were analyzed to determine the allocation of Title III and EIA funds at the district and school levels. In step three, school-level purchase orders were collected. These were analyzed and compared to site-level expenditure reports and to determine how funds were expended. During step four, semi-structured stakeholder interviews were conducted with each interview lasting between 30 minutes and three hours. Handwritten notes were made during and after the interview and included direct quotes from the participants. In the final step, committee minutes from the district's English Learner Advisory Committee (DELAC),⁵ English Learner Advisory Committee (ELAC),⁶ and School Site Council (SSC) were collected.⁷ A content analysis was conducted on the minutes with a focus on how allocation decisions were made.

Results and Analysis

The district studied is a midsized, urban school district located in Northern California, chosen for its urban setting and diversity. It serves approximately 11,000 students with a total of 15 schools: eight elementary schools, two middle schools, three high schools, one continuation school,⁸ and one K-12 school. ELL students comprises 16% of enrollment. Over half (53%) are Spanish speaking. In addition, 11% of students speak Punjabi and 6% Filipino (6%), with 30% of ELL students declaring "other languages." The three largest ethnic groups in the district are Latino (28%), African-American (25%) and white (23%), followed by Asian (13%) and Filipino (7%) students. Of the district's student enrollment, 45% receive free or reduced-price meals. Of the three schools in this study, only the middle school was designated as Title I, given its high percentage of low income students.⁹

The elementary school, located in a professional, middle-class neighborhood, enrolls 910 students and has a fairly new and well-maintained campus. (See Table 1.) Approximately one-third (34%) of students qualify for free or reduced-price meals. The ELL population at the school is 23%. The middle school, located in an up-and-coming neighborhood with new developments both residential (primarily apartment buildings) and commercial (small convenience stores and businesses), has 821 students, of which 58% receive free or reduced-price meals. Although the campus is only five years old, more than one-third of the classrooms are located in portable/temporary buildings, giving the campus a somewhat rundown appearance. Fifteen percent of the middle school students are identified as ELL. The high school campus serves 1,587 students. It is situated in an area with small food industry businesses with a supermarket across the street from the school on one side and an open park setting on the other. Over one-third (36%) of students receive free or reduced-price meals, and 9% are classified as ELL.

Table 1 | **Demographic Information on Schools in Study**

School	Number of Students	English Language Learner (ELL) Students		Free/Reduced Price Meal Eligible Students	
		Number	Percentage	Number	Percentage
Elementary	910	210	23	312	34
Middle	821	140	17	374	58
High	1,587	142	9	574	36

Table 2 | **Allocation and Expenditure of Economic Impact Aid (EIA) and Title III Funds**

Allocation and Expenditure	EIA (\$)	Title III (\$)	Total (\$)
Entitlement Categorical Aid	161,868	46,740	208,608
Carryover from previous year (elementary and middle schools)	31,184	0	31,184
Total Allocated	193,052	46,740	239,792
School Site Allocation	136,878	0	136,878
School Site Expenditure	76,044	0	76,044
District Expenditure	56,174	46,740	102,914
Balance End-of-Year	60,834	0	60,834
Entitlement Per ELL Pupil (excluding carryover)	329	95	424

Overview of Allocation and Expenditure of EIA and Title III Funds

The total EIA and Title III allocations for the school district were \$754,368 and \$147,205,¹⁰ respectively, as reflected in both district reports of “actuals”¹¹ and state financial apportionments reports.¹² The three schools in this study received from the district a total of \$161,868 or \$329 per pupil in EIA funds for the fiscal year, but they spent only \$76,044, a little more than half. (See Table 2.) Approximately 35%, or \$56,174, of EIA funds remained at the district level. There was also available \$31,184 in EIA funds carried over from the previous academic year. At the end of the fiscal year, \$60,834, or approximately 38%, of total EIA funds (including carryover) remained unspent. Title III funds for the three schools were \$46,740 or \$95 per ELL. No Title III funds were distributed by the district to individual schools. In other words, no direct student supplemental services were funded with Title III funds.

District Analysis

The district used its portion of EIA funds to support, in part, salaries for two administrators and consulting services while Title III funds were spent on the salary for a district level support person and administration of the California English Language Development Test (CELDT). One administrative position partially funded with Title III funds was that of the

Categorical Program Director, who oversees all categorical programs across the district including special education; gifted and talented education (GATE); English language development (ELD) and other supplemental programs/services for ELLs; homeless education; Title I program for low income students; music and physical education block grant; and six other incentive grants. The salary for Teacher on Special Assignment position was paid for with Title III funds. This position provides support services for the elementary sites and oversee CELDT testing practices across the district.

In the course of the interview with the Categorical Program Director, we asked him to explain how the district determined what portion of EIA and Title III funds was allocated to school sites? He responded that the superintendent’s cabinet met and determined what administrative expenditures at the district office these funds could support in order to:

...keep the system operational. Then the district office proceeds to determine how much it would take to fund other district driven expenditures such as district professional development for the ELD Lead Teachers, staff’s salaries who help ELD and ELL efforts at the district office, CELDT testing implementation, and consulting services.

He continued: “...[O]nce we have those figures, then we decide what portion of the funds we allocate to each school

site." When asked to explain why all Title III funds remained at the district office, he replied: "...the total allocation [Title III] is quite insignificant and it's only enough to supplement salaries of the district staff and CELDT efforts."

When he was asked to explain supplemental services provided to ELLs, he replied:

We want to allow as much local control as possible.

I mean we want the sites to decide how to spend categorical dollars we allocate to the sites. All principals go through debriefings and district seminars where they are informed about the funds and what are the allowable ways of spending these funds... whether they attend these seminars [although required] is hit and miss. I know this year only seven principals showed up and we have thirteen schools not counting some charter schools.

In view of responsibilities, the amount of entitlement aid kept at the district level to could arguably be substantiated by the notion that schools benefited from the investments that the district made. However, it should be noted that one-third of the EIA funds were spent on administrators both of whom have had very little oversight of the ELL programs district wide, and, one position, the teacher on special assignment, was not responsible for providing support at to secondary schools in the district. In addition, the consulting services did not represent direct investments in ELL services.

School Level Analysis

Next, we analyzed expenditures made by the three schools. Based on a review of purchase orders, we determined how much each school spent of their EIA funds. We also interviewed the principal at each site to clarify and better understand expenditures.

Elementary School Expenditures: Responding to Testing Pressures? The elementary school, which was allocated the largest share of EIA funds of the three schools, made only one expenditure, for the Tungsten Test Preparatory computerized program and materials totaling \$46,327. (See Table 3.) The principal explained the rationale for this purchase, as follows: "We are trying our best to raise academic achievement school-wide...I consulted with the district office and decided to spend the funds on the test prep program to help us in our achievement efforts." The principal was not aware of other types of support offered to ELLs, stating that he would need to check with the English language development lead teacher. When asked whether he was aware of an EIA carryover of \$15,303 at the end of the year, he responded that he was not, stating he would need to check with his secretary.

According to the minutes of the elementary school's English learner advisory committee, there was no discussion the school's EIA allocation or expenditures. However, the school site council meeting minutes did reflect a decision regarding the test preparation expenditure. The September meeting minutes indicated that one parent member asked for the principal's opinion on the proposed Tungsten Test Preparatory program and why he made that recommendation. The principal responded by stating: "The district's current focus is on student achievement and it will help us get there." Although the principal did not present any data to support the program's effectiveness, the expenditure was unanimously approved. A review of council minutes yielded no further discussion of EIA expenditures although \$20,199 of the school's allocation remained available.

Middle School Expenditures: A Possible Model? The middle school spent EIA funds on personnel, supplemental materials, and professional development. EIA funds in the amount

Table 3 | Economic Impact Aid (EIA) Carryover and Expenditure by School

EIA Expenditure	Elementary (4)	Middle (\$)	High (\$)	Total (\$)
Carryover from Previous Year	15,303	15,881	0	31,184
Personnel Salary/Benefits	0	11,195	1,128	12,323
Office Supplies	0	0	2,305	2,305
Books	0	4,158	8,068	12,226
Conferences	0	259	2,059	2,318
Test Preparation	46,327	0	0	46,327
Technology	0	545	0	545
Total Expended	46,327	16,157	13,560	76,044
End of Year Balance	20,199	20,406	20,229	60,834
Total Allocation	66,526	36,563	33,789	136,878
Total per ELL Student	317	261	238	272
Total Expended per ELL Student	221	116	96	144

of \$11,195 paid for portions of salaries for an instructional assistant and an ELL program coordinator under “Personnel Salaries and Benefits.” Theirs was the only school in the study to invest in an ELL program coordinator to supervise, develop, and coordinate English language development efforts and programs at the school site. EIA funds of \$4,158 were used to purchase supplemental materials consisting of dictionaries, encyclopedias, and ELL-friendly short story books under “Books.” The middle school spent \$545 in EIA funds for technology programs to help students learn English and improve their writing skills. Finally, \$259 were spent to support a mid-year, half-day collaboration workshop for five ELD and sheltered instruction content area teachers under “Conferences.” These funds helped provide substitute teacher relief. Still, at the end of the year, the school had an unspent balance of \$20,406 in EIA funds. Of this, \$15,881 represented unspent (carry over) funds from the previous year.

The principal started the interview stating that she receives very limited directive or assistance from the district office. As a result, at times it is “hard to figure out what we are supposed to do.” She added:

If I didn't have my coordinator, who is on top of things, to oversee student scheduling, ELAC efforts, student reclassification, etc., I wouldn't know what to do to be honest with you. But, I also know and according to your results... it seems that she missed the boat and I missed the boat, but I can tell you she works really hard. It is alarming to hear the results [study's results] that we are not serving kids and at the same time knowing how hard my staff works...

I really don't know what to say, we are struggling.

When the question regarding the carryover was asked, the principal shared that adjustments to the budget came in the middle of the school year when it was too late to make decisions regarding the best investments for the funds. She added:

Trust me, I am mad. I know my coordinator is mad and my school site council is unhappy. I want to spend the money on our ELL kids. I want to make sure that what we do here matters and our students are achieving. But, when the district tells you that the deadline to file POs [Purchase Orders] is March 31 and we are off for three weeks in March, it is impossible to get everyone together to solidify decisions... I am not trying to make excuses, what I am saying is perhaps we need to be better prepared for the mid-year budget adjustments... I don't want one penny to go back to the district, not one penny, but they give us no choice.

When the ELL coordinator was asked about English learner advisory committee meetings, she stated:

The meetings always happen. They happen every month not five times a year. Four years ago, I only had two parents attend, and I was happy about that. It was hard to create a committee since there were way too few people in attendance, but I was happy to see them and talked to them the entire hour. Then, toward the end of the year, it was 10 parents, the

following year 15. At one point we had 76 parents in attendance – at that point I wasn't happy [jokingly] because I ran out of chairs and room for all those people. They all brought their kids, relatives and food so we had over 150 folks there, so I am sure we were in violation of fire department codes! My principal kept saying: we'll get in trouble, we'll get in trouble. I thought what the heck let it be, we are building community here...

The ELD Coordinator was well aware of EIA funding, “My whole program depends on it, of course I know what EIA is...” She further stated that the site tries very hard to invest the funds directly in students and involve as many ELL parents as possible in the decision-making process. The coordinator also shared that they applied for and received outside funding as well to support their technology efforts. The middle school was the only site in the district with a dedicated ELL computer lab and library. She continued, “...there is a lot of stigma attached to the EL label, so we make sure to provide as many extracurricular services as possible to our students.” She also stated, “every year about ten ELL students read their poetry on a local radio station...we make sure that their achievements count.” The coordinator pointed out that the reason for providing all the extra services was twofold: To raise achievement among ELLs and to make the students feel special. She noted: “Just like GATE kids do... We take them on field trips, they have computer privileges that no other student group has in the school or the district and our students get to do a lot of cool stuff like showcase their digital stories.”

High School Expenditures: Incoherent Approach? The high school spent \$13,560 of EIA funds on personnel, office supplies, books, and conferences. Of that amount, \$1,128 was spent on a yearly stipend for an English language development lead teacher. Traditionally, such teachers are responsible for: (1) ensuring that all qualified students are served; (2) reclassifying students; (3) coordinating community outreach efforts; and, (4) conducting regular ELAC meetings at the school site. EIA funds coded as “Office Supplies,” an expenditure of \$2,305, were spent to purchase hanging folders, manila folders, “Post-it” notes, and copy paper for the front office. A total of \$8,068 was spent on dictionaries and bilingual books for the school library (\$1,711) and core textbooks for the English language development classroom (\$6,357). Additionally, \$2,059 was spent on conference travel expenses for both site personnel and parent participants.

The principal stated she believed EIA funds “...are pretty much for us to fill in gaps. In other words, we get whatever we need for the site.” She was not able to recall much about EIA expenditures during the interview. The English language development lead teacher did not know what EIA funds were when asked. Additionally, she stated, “...I know that somewhere these funds are available, but I don't control the site funds. You asked about expenditures...I don't know what to say because I don't get to make decisions about that.” Of the three schools, only the high school did not start the year with carryover EIA funds. However, at the end of the year, \$20,229 of the EIA site allocation remained unspent.

Conclusions and Recommendations

We set out to research entitlement categorical allocations and expenditures in three schools, selected at random, in a California school district. In this section we engage in a discussion of several salient issues that build on the results presented in the previous section.


The district allotted more EIA dollars per pupil for the lower grades compared to higher grades; that is, the elementary school received \$317 per pupil while the middle school received \$261, and the high school, \$239. Normally, these funds would be allocated according to the level of ELL student poverty in the school. If so, we would have expected the middle school, which had the highest incidence of low income students at 58% to receive a higher per-pupil allocation than the elementary or middle schools, which had poverty levels of 34% and 36% respectively.

Only half of the entitlement categorical funds in this study was allocated to the school site. There do not appear to be clear guidelines from the state or federal level as to how these funds should be divided between the district and its schools. Equally disturbing is that all three schools studied did not spend a significant portion of the allocation they received from the district. Two of the three schools also started the year with carryover funds, i.e., unspent funds from the previous year. Only the high school had spent its previous year's allocation.

Entitlement categorical funds are designed to supplement spending on ELL programs and services. However, our research uncovered some instances where these funds were used for general purchases at the school level, i.e., categorical funds were used to supplant general funds. For example, the elementary school purchased school wide testing materials with EIA funds while the high school purchased "core" or general textbooks and office supplies for school's front office. When the district's categorical program director was asked about these purchases, he responded that he was "well aware of this practice...if it is an obvious misappropriation, he sends it back to the site, but mistakes do happen." In some cases, he pointed out that the sites deal with a continuous pressure of producing results while having limited funds available to them, so site principals try to cut corners by making suggestions to their councils which "more often than not vote with the principal." These findings provide additional information to help explain prior reports examining learning conditions for ELL students (Gándara, Maxwell-Jolly, and Rumberger 2008; Gándara and Moreno 1993; Rumberger and Gándara 2004).

Not all entitlement funds were spent during the course of the school year. The end of year EIA balance for each of the three schools studied was slightly more than \$20,000 translating to 60% of EIA funds allocated to the high school, 55% of the middle school's allocation, and 30% of the elementary school's allocation. In per-pupil terms, the failure of schools to use their full allocation is even starker. The high school had available to its ELL students \$238 per pupil but spent only \$96. The middle school allocation provide for \$261 per ELL student, but only \$116 was spent. At the elementary school, which received the largest per ELL student allocation of \$317, only \$221 was spent. In sum, while the district may be questioned

as to why it kept a substantial portion of entitlement funds, schools must also be held accountable for failing to take full advantage of their allocations to provide services for ELL students. The findings indicate that the district and schools could greatly improve their approach to allocating entitlement categorical funds and providing supplemental services.

Nonetheless, we caution against concluding that entitlement funds are unnecessary and therefore should be eliminated or merged with the general education funds as some educators and policymakers have argued (Loeb, Bryk, and Hanushek 2007). In fact, this study suggests that the manner in which these funds are allocated and used at the district and the school level merit closer scrutiny. More attention should be given to monitoring policies at the state level, allocation policies at the district level, and policies on the use of these funds at the school level in order to address the needs of English language learners. Also, training for school leaders should be a part of the strategy to improve practices, including fiscal practices, that center on ELL needs. Effective expenditure practices found in this study included diversification of expenditures, engagement of parents in fiscal decision-making, and development of a strong knowledge base of the entitlement categorical funding programs. The overarching goal is to provide English language learners with a diversified, enriched curricula and support services built upon a foundation of strong ties with the ELL community and parents. 

Endnotes

¹ Specifically, this study refers to the categorical funding program associated with Title III, Part A, known as the English Language Acquisition, Language Enhancement, and Academic Achievement Act. See, California Department of Education, "Title III FAQs," <http://www.cde.ca.gov/sp/el/t3/title3faq.asp>. Title III is part of the No Child Left Behind Act of 2001.

² See, California Department of Education, "Economic Impact Aid," <http://www.cde.ca.gov/sp/sw/t1/eia.asp>.

³ LEP is a federal term used under the No Child Left Behind Act of 2001. In the state of California, these students are identified as English Language Learners or English Learners.

⁴ Supplemental services logs contain enrollment information for services like tutoring, in-class visits, and teacher support assistance.

⁵ The DELAC committee is typically comprised of one or two ELAC representatives, usually parents of ELL students, from each school site in the district. The committee is responsible for the district-wide English learner master plan. Moreover, the committee is asked to vote and provide advice as well as recommendations pertaining to supplemental district funds earmarked to address needs of ELL students across the district.

⁶ The ELAC committee is a local school site committee comprised of parents, teachers, and other school staff including a vice principal or principal of the school. In addition, the committee is responsible to oversee English language development program, CELD testing practices and advise as well as make recommendations to the School Site Councils

pertaining to supplemental site funds allocated for ELL purposes.

⁷The SSC committee is an elected body representing each school site comprised of parents, community members, employees, and the site principal. In addition to constructing the school site plan for academic achievement, the committee is responsible for all site categorical allocations and expenditures.

⁸In California, continuation schools are alternative high schools. See California Department of Education, "Continuation Education," <http://www.cde.ca.gov/sp/eo/ce>.

⁹A "Title I school" is shorthand for a school that qualifies for a school wide Title I program under the federal No Child Left Behind Act of 2001. Title I is a federal education aid program targeted to low income students. Those schools with greater than 40% of student enrollment classified as low income are eligible for aid through the Title I school wide program. See California Department of Education, "Title I: Schoolwide Programs," <http://www.cde.ca.gov/sp/sw/rt>.

¹⁰Total Title III funding was comprised of \$121,695 for LEP students and \$25,510 for immigrant students.

¹¹The "actuals" district reports are the reports reflecting actual expenditures during any given academic year. In other words, the "actuals" are end-of-year reports.

¹²Due to differences in the funding formulas, EIA funding was substantially higher than Title III funding.

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Nevada, the Great Recession, and Education

Deborah A. Verstegen

Deborah A. Verstegen is Professor of Education Finance, Policy and Leadership at the University of Nevada-Reno. Previously, she was faculty at the University of Virginia for almost two decades. During 2006-2007, she held the Edwin J. O'Leary Endowed Chair in Financial Management at the University of Illinois, Urbana-Champaign.

Introduction

The impact of the Great Recession and its aftermath has been devastating in Nevada, especially for public education. Prior to the state's legislature meeting for its biennial session in February, 2009, Nevada's economic outlook was already showing signs of trouble. The state was close to 10 % in unemployment and economic forecasts for the 2009-2011 biennium were approaching historic lows. In his 2010 state of the state address, then Governor Jim Gibbons, a Republican, outlined the state's outlook:

Nevada has actually fared worse in this national and worldwide economic crisis than many other states. The combination of tight credit markets, sharp declines in discretionary spending and record-low consumer confidence has caused our two major industries, construction and tourism, to suffer drastic reductions. The numbers are daunting.¹

Only two years later, Nevada recorded the highest budget gap in the nation at 45.6%; the highest unemployment rate at 14.5%; and the highest number of housing foreclosures. The leading industries of construction, gaming and tourism were waning, and revenue collections were down. The new Republican Governor, Brian Sandoval, in his first state of the state address (January 4, 2011) underscored the challenge facing state, calling for fundamental change:

[T]he state of our state this evening should not be described as just another dip in the road. Instead, we find ourselves on the new terrain of a changed global economy, and the crossing is hard. The Nevada family looks to us to understand how we will navigate this new path. Certainly, there are short-term solutions – some of them painful. But true success lies in making a fundamental course correction and declaring, in the words of Abraham Lincoln: "The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise with the occasion. As our case is new, so we must think anew and act anew."²

Because Nevada's economy is so heavily affected by outside influences – tourism, for example – national and international economic problems have an especially strong impact on the

state's economic climate. To compound the situation, Nevada's tourist economy is dependent upon a large number of service sector jobs that do not require advanced education, fueling the notion that higher education is not required for workforce participation. According to a report by the Institute for Higher Education Policy, "As the casino-based economy flourished, many Nevadans were able to achieve a middle-class lifestyle without having to acquire a college degree."³ The consequence is that economically Nevada may have undervalued education funding. The report went on to state: "Even by the most conservative estimates, there is no doubt that the gaming and hospitality industries are likely to remain dominant industries in Nevada."⁴ Although some may believe the state must diversify its economy by attracting other industries, such as high-tech companies, science and research firms, and alternative energy enterprises, what presents some level of difficulty is that in order to attract such diverse businesses "...the higher wage jobs in the new knowledge-based economy require significantly more postsecondary education,"⁵ and "Nevada, with its low educational attainment, is unprepared to meet these demands."⁶

Considering Nevada's economic realities, the education budget is a source for debate as the legislature meets in its odd-year session of 160 days every two years. The current Democratically-controlled legislature had been at odds with the Republican governor prior to the introduction of his budget proposal, and the tough economic situation combined with political volleying has meant that issues will not be settled easily. The governor is against tax increases (his campaign was run on a "no new taxes" stance) and has focused on the business sector. As a result, Nevada's education budget remains contentious and will most likely continue to be for some time as the state grapples with its long-term economic future and present outdated revenue structure.

This article discusses the budget shortfalls and the impact of the economic crisis in Nevada using case study methodology. It provides a review of documents, including Governor Gibbon's proposals for the public K-12 education system and the Nevada state higher education system (NSHE) for 2009-2011, together with the legislative response. It then outlines Governor Sandoval's 2011-2013 budget proposals and responses from the NSHE and K-12 public education in the state in the two largest cities, Reno and Las Vegas. The final section includes an update to the tumultuous years of uncertainty in Nevada, with the surprising Nevada Supreme Court decision that waylaid a budgetary impasse. Data sources included documents available in the field and participant observation. When possible, data were triangulated to identify trends and outcomes. The focus throughout was on education finance in school districts and higher education institutions, and how they were affected.

Governor Gibbon's 2009 State of the State Address

In his January 2009 state of the state address, Gibbons outlined proposals to meet Nevada's "historic challenges" brought on by the ripple effects of a global economic downturn and stock market collapse that impacted Nevada's unemployment, housing foreclosures, job dislocations, declining tourism and

construction industries.⁷ Revenue reductions were projected at 30% but were not forecast to affect all sectors similarly. According to the governor, the revenue forecast for the state's 2009-2011 biennial budget of \$5.4 billion in the general fund was \$2.2 billion lower than funding proposed for the last biennial budget. However, he held that new taxes would not solve the problem because they would "kill economic growth and job creation."⁸ Instead, he offered spending reductions to balance the state biennial budget.

The governor's budget recommended funding reductions from all sources of \$2.247 billion for Fiscal Year (FY) 2009-2010, a decrease of 10.1% compared to FY 2008-2009, and \$2.247 billion in FY 2010-2011, which was an increase of 0.4% over FY 2009-2010.⁹ General fund appropriations reductions included \$1.58 billion in FY 2009-2010, a decrease of 11.0% compared to FY 2008-09, and \$1.573 billion in FY 2010-11, which comprises an additional decrease of 0.5%. Approximately 33% of the state general fund budget is appropriated to K-12 education with an additional 19.5% for higher education. Therefore, education sustained a major portion of funding reductions under Gibbon's budget proposal.

The Governor's Budget Proposal and Education Funding Reductions

Education in the state of Nevada is comprised of three areas: The Department of Education (K-12); the Nevada System of Higher Education (NSHE); and other education programs which include the Department of Cultural Affairs, the Western Interstate Commission for Higher Education (WICHE), and the Commission on Postsecondary Education.

The Nevada Department of Education and K-12 Schools

There are 17 school districts in Nevada, whose boundaries are coterminous with counties. Funding for public K-12 elementary and secondary schooling is derived from federal, state and local sources. The primary support for school districts from the state is the Nevada Plan; the funding system, a foundation program. Under the plan, the state legislature determines the level of basic support per student which allows for differences across districts in the costs of providing education, e.g., size, and in local wealth. Special education support is added to the state guarantee and is paid from local funding and state support. Local districts contribute to funding under the Nevada Plan from a property tax of 25 cents per \$100 in assessed valuation and a local school support sales tax (sales) of 2.25% which increased to 2.6% in 2010. The state pays the difference in what localities raise and the basic support guarantee from state sources. State funds are derived from the distributive school account.

Additional funds outside the Nevada Plan include several local revenues including a 50 cents per \$100 ad valorem property tax (property tax), the local government services tax formerly called the motor vehicles privilege tax, and other local sources including franchise taxes, interest, tuition, and operating balances. Currently, these additional revenues are budgeted to generate approximately 25% of revenues to support local school district budgets with the balance being funded under the Nevada Plan which is the state's responsibility.¹⁰

Table 1 | Basic Education Support and Change from Previous Year, 2001-2011

2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009*	2009-2010	2010-2011
Actual (\$)	Actual (\$)	Actual (\$)	Actual (\$)	Actual (\$)	Actual (\$)	Actual (\$)	Legislative Appropriation (\$)	Governor's Recommendation (\$)	Governor's Recommendation (\$)
3,921	3,987	4,298	4,433	4,490	4,699	5,125	5,323	4,945	4,946
106	66	311	135	57	209	426	198	(378)	1

Source: Adapted from 2009 Appropriations Report. Chapter V. Carson City, NV: Legislative Counsel Bureau, 2009.

*In 2008-2009, per-pupil funding for textbooks and instructional supplies was reduced by \$48 million during a special session to \$5,213.

The Gibbon's budget recommended the required state support under the Nevada Plan from the DSA to total \$2.39 billion for FY 2009-2010 and \$2.42 billion for FY 2010-2011, a decrease of 6.9 % over the 2007-2009 biennium. These amounts included recommended changes in all programs under the DSA including the foundation basic support, class-size reduction, special education, adult programs, counseling, early childhood, and library media.¹¹

Table 1 provides a funding history of the average basic support amount per pupil for operating purposes since 2001-2002. In 2007-2008, funding was \$5,125 per pupil under the Nevada Plan and increased by \$198 to \$5,323 in 2008-2009. However, the 24th special session of the legislature decreased funding by \$48 million for textbook funding resulting in a per pupil amount of \$5,213 in 2008-2009. Governor Sandoval's budget recommendation further reduced funding to \$4,945 per pupil in 2009-2010 and \$4,946 in 2010-2011.¹²

Statewide, salaries for teachers were projected to decrease based on the governor's recommendation of a 6% salary reduction effective July 1, 2009, along with the continued suspension of merit pay. Under this recommendation, average teacher's salary would fall from \$52,497 to \$49,347.

The governor's budget also recommended a 3.3% decrease in state funding for special education program units, defined as an organized instructional unit where a licensed, full-time teacher is providing an instructional program for a full school day, nine months a year that meets minimum standards as prescribed by the State Board of Education.¹³ These are referred to as teacher units as they project staffing needs based on availability of funding. In FY 2008-2009, the state funded 3,128 units at \$38,763 each. For FY 2009-2010, this fell to 3,056 units at \$36,569 each. In FY 2010-2011, the number of units rose to 3,094 units, but were funded at the same level.

Additionally, under the governor's proposed budget, funding for class size reduction would be reduced by 6.4% in FY 2009-2010 to \$143.4 million, but it would receive a 1% increase in the second year of the biennium. The budget also proposed a reduction of \$13.5 million per year for regional professional development programs and eliminated funding incentives for licensed educational personnel, a savings of \$50 million. It also eliminated the expansion of full day kindergarten programs and empowerment school programs.

Clark County School District. The impact of the recession on the largest school district in the state, Clark County School

District, which contains Las Vegas, was especially severe. Clark County is the fifth largest school district in the United States, enrolling over 300,000 pupils. The district has the lowest per-pupil expenditure and the highest pupil-teacher ratio in the state. The district's planning process for determining budget reductions used the minimization of the impact on the classroom as its primary goal, an approach which is consistent with research guidelines.¹⁴ In addition, the district held a series of town hall meetings to get input from staff, students, parents, and district patrons before reaching final decisions.

The most severe reductions were in administration and support personnel to assist teachers. Administrative positions were reduced at the central office, regional offices, and schools sites by a total of 260 positions representing a savings of \$2 million. School staffing formulae were reduced by 3.0% for a savings of \$27 million. Early retirement incentives, reduction in support staff in elementary schools, elimination of teacher purchasing cards, and cuts in mentor teachers accounted for an additional \$12 million. Additional cuts involved retaining full day kindergarten only for at-risk schools and eliminating block scheduling at the high schools. Elimination of block scheduling represented \$11 million in savings, but students would have fewer options for making up course credit deficiencies under that scenario.

Washoe County School District. Washoe County School District, encompassing the city of Reno and the University of Nevada's flagship institution, is the second largest school district in the state. In December 2007, the district was notified of a state budget shortfall of \$440 million by the governor's office. On January 1, 2008, the shortfall had grown to \$500 million, and by January 18, to \$517. By the year's end, the shortfall was \$1.5 billion. It was followed by an even more drastic revenue decline expected in the current budget cycle, which is projected at \$2.3 billion. Governor Gibbons warned that several options to reduce the budget were off the table. These included shortening the school day, releasing prisoners, and massive state employee lay-offs. Instead of the latter, he proposed a 6% salary reduction for state employees, and a temporary freeze on step increases and longevity pay for the biennium.¹⁵

Round one of budget reductions for the Washoe County School District included a \$3.6 million and \$.602 million reduction over the two years of the biennium, representing a total reduction of \$4.2 million. Textbook adoptions for science

Table 2 | Fee and Tuition Increases

Fees by Institution	FY 2009 Fees/ Tuition (\$ per credit unless otherwise noted)	FY 2010 Regents Approved per Governor's Recommendation (\$ per credit unless otherwise noted)	FY 2010 Change (\$)	Change (%) Between FY 2009 and FY 2010	FY 2011 Regents Approved per Governor's Recommendation (\$ per credit unless otherwise noted)	FY 2011 Change (\$)	Change (%) Between FY 2010 and FY 2011
Community Colleges							
Resident	57.25	60.00	2.75	4.80	63.00	3.00	5.00
Upper Division*	93.50	98.25	4.75	5.10	103.25		5.10
Non-Resident	5,709.00/year	6,188.00/year	\$479	8.40	6,347.00/year	159.00	2.60
Nevada State College							
Resident	93.50	98.25	4.75	5.10	\$93.25	5.00	5.10
Non-Resident	8,398.00/year	9,264.00/year	\$866	10.30%	9,818.00/year	554	6/0
Universities							
Resident Undergraduate	129.50	36.00	6.50	5.00	142.75	6.75	5.00
Resident Graduate	198.00	217.75	19.75	10.00	239.50	21.75	10.00
Non-Resident	11,095.00/year	12,340.00/year	1,245.00	11.20	13,290.00/year	950.00	7.70

Source: Adapted from 2009 Appropriations Report. Chapter V. Carson City, NV: Legislative Counsel Bureau, 2009, p. 101.

*Upper Division refers to Great Basin College, College of Southern Nevada, and Western Nevada College.

were deferred along with other savings in year one while the district's general fund balance was used to cover year two reductions. When a special legislative session was called in June 2008 to address another \$275 million shortfall, school districts were asked to further reduce their 2008-2009 budgets by 3% while statewide textbook funding was cut in half. In December, the gap had grown to \$341 million requiring a third round of budget reductions. A fourth round of budget reductions began with planning for the 2010-2011 budget. Here the governor requested a 14.5% reduction for all state agency budgets. The Washoe County School District projected possible increased class sizes, elimination of additional retirement funds for teachers in hard-to-staff schools, and additional reversions of unspent state funds.¹⁶

Nevada System of Higher Education

Budget reductions also affected Nevada colleges and universities. The Nevada System of Higher Education (NSHE) is comprised of the Chancellor's Office; University of Nevada, Reno (UNR), University of Nevada, Las Vegas (UNLV); Nevada State College at Henderson (NSC); College of Southern Nevada (CSN); Western Nevada College (WNC); Great Basin College (GBC); Truckee Meadows Community college (TMCC); UNR School of Medicine; UNLV Law School; UNLV Dental School;

and the Desert Research Institute (DRI). The system is governed by a 13-member Board of Regents.¹⁷

The 2010 system wide operating budget for the NSHE was 25.2% lower than approved by the legislature for the 2007-2009 biennium, or a total of \$1.26 billion (net of interagency transfers).¹⁸ However, more drastic reductions were recommended for general fund appropriations. Governor Gibbons recommended \$843.9 million for the 2009-2011 biennium, a decrease of \$472.5 million. This is a 35.9% reduction compared to the amount approved by the legislature for 2007-2009.¹⁹

Funding for NSHE budgets are primarily based on enrollment. NSHE used three-year weighted averages from FY 2006-2007 through FY 2008-2009 to project enrollment percentage changes with the exception of Nevada State College where unweighted prior-year actuals were used.²⁰ Enrollments were projected to increase in 2011-2013 by 3.18% with the largest percentage increases at the College of Southern Nevada and Great Basin College. Projected enrollments in FY 2009-2010 were 6.23% higher than the full-time equivalent (FTE) enrollments budgeted in FY 2008-2009.

For FY 2007-2008 and 2008-2009, the legislature funded NSHE's main formula accounts for the seven teaching institutions at 85.5% of adequacy calculations. The governor recommended formula maintenance funding at 85.77 % which

Table 3 | Funding Reductions, 2007 through 2011

Fees by Institution	General Fund Allocation 2007-2009	Cuts 2007-2009	Percent (%) Change FY 2007-FY 2010	Actual FY 2009 General Fund Allocation	Annual Legislative Target General Fund FY 2010-2011	Annual Target Legislative Reductions Change (\$)	Percent (%) Change FY 2009-FY 2011
Community Colleges							
Great Basin College	33,360,369	1,821,218	5.459226	17,823,347	14,479,665	3,343,682	18.76
College of Southern Nevada	192,828, 993	10,507,339	5.449045	102,894,130	83,591,066	19,303,064	18.76
Western Nevada College	42,021,026	2,228,624	5.303593	22,358,817	18,164,276	4,194,541	18.76
Truckee Meadows Community College	81,134,420	4,417,824	5.445068	43,186,115	35,084,347	8,101,768	18.76
Four Year Colleges							
Nevada State College	33,001,010	1,830,827	5.54779	18,145,916	14,741,720	3,404,196	18.76
Universities							
University of Nevada, Reno	413,663,217	22,557,169	5.453028	144,152,936	117,109,669	27,043,267	18.76
University of Nevada, Las Vegas	401,252,013	21,865,640	5.449353	183,139,626	148,782,409	34,357,217	18.76

Sources: "Nevada System of Higher Education Responses to March 20, 2009 Budget Hearing Prepared for 'Work Session'"; and personal communication with L. Eardly, April 6, 2009.

Notes: Schedule displays 4.5% cuts for FY2008 and FY2009 with an additional 3.42% cut for FY2009. Student credit hour surcharge and additional student fees are revenues brought in to replace a portion of the 4.5% cut.

would provide increases over the biennium of \$30.70 million and \$341.65 million in FY 2009-2010 and FY 2010-2011, respectively. However, according to the Nevada Legislative Counsel Bureau (NLCB), taking into account additional formula enhancement modules, the net impact of the governor's formula recommendation would result in general fund formula reductions of \$204.04 million and \$203.38 million. NLCB explained: "Preliminary calculations indicate that when combined with other budget reductions...the Governor's recommendations would drop formula funding percentages from the legislatively-approved 85.5 % level to a range of between 51.73 and 54.61%."²¹

The Board of Regents responded by approving fee increases for students at the colleges and universities for the 2009-2011 biennium, ranging from \$2.75 to \$21.75 per credit.²² (See Table 2.) The largest fee increases were for universities where resident graduate student fees increased 10%, resulting in total tuition costs of \$239.50 per credit hour. Undergraduates (residents) sustained a 5% increase to total \$142.50 per credit hour.

The governor's budget also recommended a 6% reduction in salaries and the elimination of longevity and merit increases. In addition, \$2.96 million yearly decreases in state-supported operating budgets' revenues and expenditures through the elimination of the operating capital investment revenues was recommended.²³ Other proposed changes for NSHE included an increase in the audit contract \$67,500 and transfers were proposed for the WICHE program and the Fire Science Academy.

NSHE sustained a 4.5% reduction in state appropriations in January of 2008 and an additional 3.42% reduction in July of 2008.²⁴ Although Governor Gibbons requested an additional 35.9% reduction in the 2009-2011 biennium, the legislature asked NSHE to prepare a report that would meet the minimum requirements under maintenance of effort in order to receive approximately \$400 million in federal stimulus funds. This would keep funding at 2006 levels and would equate to an 18.76% reduction, rather than 35.9%. (See Table 3.)

In a March 20, 2009 legislative hearing, the legislative subcommittee on K-12/higher education NSHE to present budget impacts based on the 18.76% budget reduction scenario. The committee also asked NSHE to create the budget using a 5% additional fee increase (essentially this is a tuition increase).²⁵ The 18.76% budget reduction would result in a \$555.5 million general fund expenditure, equivalent to that of FY 2005-2006, the base year for federal funding eligibility under the maintenance of funding requirement. The subcommittee requested that NSHE detail what programs would be added with this budget versus the 35.9% budget cut proposed by the governor. They also asked what specific programs would still be cut at the funding level resulting from the 18.76% reduction. Each institution gave detailed response as to how these reductions would impact their respective institutions.

University of Nevada, Reno (UNR). The cuts from the 2007-2009 biennium led to 37 nonrenewal notices and cuts of 43.78 state-funded positions at UNR. The mathematics and writing centers were eliminated as well as six other programs/services that had been targeted for elimination.²⁶ The 2009-2011

proposed plans to meet possible budget cuts, UNR reported, would result in the elimination of 100 additional faculty as well as 20 classified positions, and approximately 400-500 class sections annually or roughly 800 sections over the biennium. Intercollegiate athletics would experience reductions between \$300,000 and \$700,000. Other areas that would be negatively impacted included de facto enrollment caps, and reductions of 50% in statewide programs.²⁷

The University of Nevada, Las Vegas (UNLV). UNLV reported that these proposed cuts would lead to program eliminations, but was hesitant to comment on just which programs would be cut for fear of diminishing the viability of those programs.²⁸ Salary cuts, furloughs, or a 4.7% reduction, would be necessary for faculty and staff members that had already taken on more responsibilities due to the last two rounds of budget cuts. Losses would include approximately 210 faculty, 170 part-time instructors, 2,200 classes, 4,271 FTE students, 6,380 total students, 24% overall FTE, library holdings, IT capacity/services, and seed funding for programs and activities. In graduate education, cuts would equate to either 24 staff positions or 180 graduate assistantships. Fifty nonacademic student affairs positions would be terminated resulting in delays in admissions and financial aid processes. Approximately 100 of 500 positions in the business and finance area of administration would have to be cut as well. Fifteen professional positions that target raising private money for the institution would be eliminated; these were estimated to result in the loss of private support of roughly \$10,400,000 a year.

The School of Law would be forced to reduce its operating budget by 60%, eliminating two faculty, two library faculty, and three professional staff positions. These reductions would also leave the law school around \$600,000 short in scholarship money. The Dental School would have to close its enterprise clinic that serves 17,000 patients on a sliding-fee scale yearly. It would also be forced to eliminate around ten programs that provide services to children, sheltered women, and the homeless.

Nevada State College (NSC). For NSC to meet the proposed budget cuts, 37 positions or roughly 23% of its work force would have to be eliminated. These positions would include faculty, student services, support services, human resources, information technology, facilities, and the president's staff.

The Legislative Response and 2009-2011 Budget Reductions²⁹

General fund appropriations supported by the 2009 legislature in response to the governor's proposals were higher than requested, totaling \$1.72 billion in FY 2009-2010 and \$1.852 billion in the 2010-11 fiscal year, a combined 9.1% decrease over appropriations for the 2007-2009 biennium. Appropriations for education comprised 55.2% of general fund expenditures for the 2009-2011 biennium. Total funding for education from all sources was \$2.5 billion in FY 2009-2010, an 11.5 % decrease from prior amounts. A total of \$139.6 million in federal stimulus funds was allocated to K-12 basic aid and \$184.8 million funding was allocated to NSHE for the 2009-2011 biennium.³⁰

K-12 Education

The approved budget provided school districts with \$3.325 billion in FY 2009-2010 and \$3.364 billion in FY 2010-2011. Actual basic support for FY 2007-2008 (the foundation amount per pupil) was \$5,125 after textbook funding reductions compared to \$5,213 in FY 2008-2009, \$5,251 for FY 2009-2010 and \$5,395 for 2010-2011. The 2009 legislature reduced funding for teacher's salaries by 4 % in each year of the biennium to assist with projected budgetary shortfalls, rather than the 6% reduction recommended by the governor.³¹ Merit and longevity pay increases were also suspended by the legislature as recommended by the governor, but the general assembly approved a partial restoration of merit increases for teachers obtaining additional education. This resulted in a general fund "add-back" of \$9.0 million in FY 2009-2010 and \$19.3 million in FY 2010-2011.³²

For special education, the approved budget included 3,049 special education units, at a cost of \$39,768 each, or \$121.3 million for each year of the biennium, an increase of 2.6% over the FY 2008-2009 per unit funding level but a 2.5% decrease in the number of approved teacher units from the FY 2008-2009 level.

For academic year 2010-2011, schools districts were authorized to increase class sizes in grades one through three by no more than two pupils per teacher in each grade to achieve pupil-teacher ratios of 18:1 in grade one and, and 21:1 in grade 3.³³ School districts that chose to increase class sizes in K-3 were required to use funding saved to minimize reductions on class sizes in grades 4 through 12, and to report class sizes for grades 1-12.³⁴

The legislature did not support the governor's proposals to suspend the regional professional development program for the 2009-2011 biennium. However, four existing regions were consolidated to three, and additional funding was provided for administrator training. In addition, the legislature suspended new teacher signing bonuses and approved full day kindergarten for at-risk students in schools with 55.5% free and reduced-price lunch count.

In a special session, called February 23, 2010, in response to the continuing economic crisis, changes to address the budget shortfall were addressed. K-12 basic support (foundation funding) was reduced from \$5,395 to \$5,192 per pupil for FY 2010-2011. This required additional budget reductions for school districts across the state. Additionally, the legislature reviewed policy recommendations that would make Nevada eligible to receive competitive federal stimulus funds between \$60 million and \$175 million through the Race to the Top program. To qualify, the legislature removed a the prohibition on linking student achievement data to teacher evaluations. The resulting legislation required achievement to be considered but not to be the only criterion for evaluating or disciplining a teacher.³⁵ Additionally, Nevada committed to using the Common Core State Standards, with implementation slated for 2014, to be eligible. However, the state's subsequent Race to the Top proposal was not selected for funding.

Higher Education

Although the governor proposed a 35.9 % decrease in general fund support for 2009-2011 for NSHE, the Democratically controlled legislature responded with a 12.5 % decrease.³⁶ This was still a substantial reduction of \$1.316 billion in general fund support. The legislature also approved a flat enrollment projection methodology rather than a traditional three year weighted average methodology that had been used to project higher education enrollment. This had the effect of favoring universities over community colleges, but was adopted only for the 2009-2011 biennium.

Federal stimulus funding provided substantial assistance for Nevada in the amount of \$396.58 million, with K-12 and higher education receiving 81.8%. Although the state did not meet the maintenance of effort requirement for funding at the level supported in 2005-2006, it did qualify for a waiver. Subsequently, the legislature budgeted \$92.39 million in each year of the biennium to NSHE institutions which was distributed through the flat enrollment methodology. The balance of the federal stimulus stabilization funding was allocated to K-12 education in FY 2008-2009 as part of the foundation formula.

In addition to formula reductions for NSHE, the governor's budget had included a 6 % salary reduction, suspension of longevity payments and merit pay increases, and reductions in health benefits. However, the legislature approved a 4 % salary reduction and 12 days of furlough for classified employees and restored some health benefits.

Additionally, the NSHE Board of Regents approved fee increases for colleges and universities ranging from \$2.75 to \$21.75 per credit hour with the highest increases falling on graduate student residents (10%) at universities. Subsequent to the legislature's adjournment, the Board of Regents approved an additional 5% student registration fee surcharge per credit for each year of the 2009-2011 biennium. Fees were applied to undergraduates at the universities, state colleges, and community colleges in spring semester 2010, but not to graduate, medical or law school courses. Additional changes were made in several areas including capital improvements, operation and maintenance of space, and a dental residency transfer to UNLV from UNR.³⁷

Governor Sandoval's State of the State of Nevada Address: The 2011-2013 Budget

After a gubernatorial election that featured a Tea Party candidate challenger, Sharon Angle, and U.S. Senator Harry Reid's son, Rory Reid, a Democrat, newly elected Governor Sandoval, a Republican, presented an outline of his plans in his state of the state address on January 24, 2011. His plan included cuts for state employees, an assault on tenure, and increased funding for business. K-12 and higher education were both targeted for significant reductions. The governor's proposals included what he called an "outline of significant reforms in the way we manage our schools," as follows (direct quote):

- End teacher tenure. An important first step is to eliminate the protection of seniority when decisions about reductions in force must be made.

- Rely heavily on student achievement data in evaluating teachers and principals. As incentives, we will provide \$20 million in performance pay for the most effective teachers will be allocated.
- Eliminate costly programs that reward longevity and advanced degree attainment. Bill Gates, Secretary of Education Arne Duncan, and others have repeatedly noted this kind of spending does not improve student achievement.
- End social promotion. Students who cannot read by the end of third grade will not be advanced to the fourth grade.
- Improve accountability report cards and provide more parental choice: Open enrollment, better charter school options, and vouchers to make private school education a possibility for more families.
- Reform K-12 governance...the governor appoints the state board of education and the superintendent of public instruction.³⁸

The governor sought to fill a 50% budget gap, the highest in the nation,³⁹ without new taxes. Key strategies were reductions in the number of state employees, cuts in education funding, and the capture of funds from local governments. The governor recommended that a portion of the local property taxes from Clark and Washoe Counties be used for funding higher education. This, a rather unusual manner in which to fund local schools and colleges, was augmented by another closely related revenue enhancement strategy: Raiding funds from local school district debt reserves. The latter came under fire, however, amid further scrutiny. Localities objected to funds for targeted purposes being taken by the state and used to fill the state budget gap.

The proposed reductions for higher education, if implemented, would have been drastic according to figures compiled by the NLCB.⁴⁰ (See Table 4.) University presidents at the state's doctoral institutions, UNLV and UNR, also sounded the alarm. A headline in a March 30, 2011, UNLV faculty blog post captured the issue: "Sandoval budget cuts higher ed 40% in net allocation since 2007."⁴¹ In another news report, the UNLV President suggested the level of reductions was so staggering that, if approved, declaring financial exigency for the university would be necessary.

The combined effects of reductions on schools and colleges were the subject of multiple electronic analyses and in-house communiqués, as well as concern by teachers and postsecondary faculty and state workers, who would bear the brunt of reductions. Each institution issued communiqués via the web and through selected news releases.

The University of Nevada, Reno

In a letter titled "Dear Colleagues," UNR President Milton Glick, provided details of the full impact of the proposed budget reductions: "If these proposed budget reductions are fully implemented, the University's budget will have been reduced by more than \$100 million over two biennia or four years. Our campus will have eliminated more than 700 budgeted positions and more than 30 degree programs, and more than 50 services and programs will have been eliminated or sharply reduced."⁴² Curricular review underway at UNR was allegedly reviewing programs for possible elimination. If programs were

Table 4 | 2011-2013 Biennium Executive Budget Recommended Governmental Support Compared to FY 2011 Legislatively Approved Governmental Support

	FY 2011 General Fund and ARRA (Leg. Approved)	FY 2012 General Fund and Property Tax (Gov. Rec.)	% Change Over FY 2011	FY 2013 General Fund and Property Tax (Gov. Rec.)	% Change Over FY 2011
UNR	\$124,085,141	\$95,632,792	-22.9%	\$81,409,408	-34.4%
UNLV	\$154,997,284	\$125,413,961	-19.1%	\$106,525,137	-31.3%
NSC	\$13,826,922	\$9,040,401	-34.6%	\$7,602,701	-45.0%
GBC	\$17,531,947	\$13,941,066	-20.5%	\$11,793,317	-32.7%
CSN	\$97,086,121	\$75,944,918	-21.8%	\$64,667,849	-33.4%
WNC	\$19,614,843	\$14,941,033	-23.8%	\$12,621,694	-35.7%
TMCC	\$37,959,454	\$29,890,760	-21.3%	\$25,418,350	-33.0%
TOTAL	\$465,101,712	\$364,804,931	-21.6%	\$310,038,456	-33.3%

Source: Nevada Legislative Counsel Bureau. 2011 Fiscal Report. Section V, p. 115.

identified for elimination, then all faculty would be “let go,” including tenured professors. President Glick wrote to faculty and others, providing further details of the budget reductions just weeks before his fatal stroke. Entire majors and minors were slated for elimination as well as entire academic departments.

The plan for the fiscal year’s \$58.8 million in proposed reductions included permanent elimination of 318 positions with 1,600 students directly affected by reductions in program and degree areas. Included was the consolidation of four colleges into two whereby the College of Agriculture, Biotechnology and Natural Resources would become part of the College of Science, and College of Education would become part of the College of Liberal Arts. Eight majors or minors would be eliminated: Educational leadership, educational psychology, counseling and human development, educational specialties, nutrition, philosophy, French, theater, and dance. Ten programs or centers faced proposed elimination or significant downsizing: Cooperative Extension; Nevada Bureau of Mines and Geology; Center for Research Design and Analysis; Nevada Small Business Development Center; Business Center North; intercollegiate athletics; hydrology graduate program; atmospheric science graduate program; and mathematics/statistics. Student Services would also be affected, with reductions in the Disability Resource Center, Center for Student Cultural Diversity, student success services, student conduct, recruitment, and admissions and records. Additional student services would be moved to fee-based support.

Finally, state funding for Basque Studies; International Students and Scholars; Center for Justice Studies; Child and Family Research Center; Lombardi Wellness Center; Center for Substance Abuse Technology; New Student Initiatives Program; Latino Research Center; and Black Rock Press would be eliminated.⁴³

The University of Nevada, Las Vegas

UNLV reported that it would cut another 155 faculty lines in 36 programs, displacing over 2,200 currently enrolled students in fields from marketing to social work to informatics—in addition to reductions that were being implemented in the current academic year. UNLV President Smasreck explained the situation: “I have been asked repeatedly what principles were used to guide these cuts. I would like to remind everyone that we aren’t aware of any other institution that has faced cuts of this magnitude over such a short period of time. We are in uncharted territory. We can no longer sustain the diversity of programs we have with the resources we receive...”⁴⁴

Nevada State College

At NSC, the administration announced it would have to reduce access for 6,000 students, nearly 20% of its full-time equivalent enrollment. WNC also announced the closure of programs that would result in loss of access for students and faculty layoffs.

NSHE also was considering raising fees by 13% in each year of the upcoming biennium. This was to offset further cuts to academic programs and services given the \$162 million in state revenue cuts proposed by the governor for the 2011-13 biennium. Current annual fees of \$5,461 per resident undergraduate student would rise to \$7,006, if implemented.⁴⁵

K-12 Education

Proposed reductions for K-12 education included the governor’s recommendation of reducing foundation program support by \$270 per pupil for each year of the biennium. Together with special session changes, this would result in considerable changes in the funding trajectory per pupil. According to the NLCB, funding for the Nevada Plan would be \$4,918 per pupil for 2012 and \$4,918 per pupil for 2013, a reduction of \$209 and \$477 per pupil respectively. In addition, teacher salaries

Table 5 | Student Enrollments and Percentage Change from Previous Year, FY 2004 through FY 2013

FY 2004 Actual	FY 2005 Actual	FY 2006 Actual	FY 2007 Actual	FY 2008 Actual	FY 2009 Actual	FY 2010 Actual	FY 2011 Projected	FY 2012 Gov. Rec.	FY 2013 Gov. Rec.
373,498	387,834	400,101	413,260	420,830	422,112	421,387	422,570	423,192	424,460
4.14%	3.84%	3.16%	3.29%	1.83%	0.30%	-0.17%	0.28%	0.15%	0.30%

Source: Nevada Legislative Counsel Bureau. 2011 Fiscal Report. Section V, p. 105.

would fall 5%, and longevity and merit increases would not be implemented. Overall reductions for education to individual school districts, according to their superintendents, would be draconian.

In addition to the proposed funding reductions, enrollment changes would result in funding losses. State aid to school districts is based on student enrollment counts, taken annually the last Friday in September. Although state population increases had outpaced the rest of the country over the past decade, they were now flat. Beginning in 2009, student enrollments had stabilized as a result of the economic recession and job losses, which in turn led to outmigration. Table 5 shows public school enrollment changes over time.

Proposed changes in teacher tenure would include three years of probationary status instead of two. After tenure, referred to as post-probationary status, an unsatisfactory rating in two sequential years would return a teacher to probationary status.

Clark County School District. CCSD, including the Las Vegas schools with 70% of the state's student population, projected the following changes if the proposed cuts were implemented:

Enrollment for the nation's fifth largest school district is expected to go down more than 9,000 students to about 300,000...Even before the projected enrollment drop, district officials had estimated that they might have to cut anywhere from 2,500 to 5,600 jobs to balance a funding shortfall of \$250 million to \$400 million. The district employs 38,500 people, including 18,000 teachers. Based on data from a past budget document, increasing class sizes by three students would eliminate the need for about 1,000 teachers in grades 1-12.⁴⁶

Washoe County School District. Due to anticipated losses of local, state and federal funding, WCSD in northern Nevada, including Reno, reported facing an estimated \$75 million shortfall for 2011-2013. This would be in addition to \$73 million in cuts the district already had made during the last four years. Debt reserve losses would mean that school revitalization would not occur as planned, safety issues might need to be overlooked, class sizes would increase, and teacher pay would drop. At the same time, teacher tenure laws were under attack, and lay-offs were on the horizon.

The Nevada Supreme Court Decision

In the midst of proposals for draconian budget reductions across the state which focused on public employees, including teachers and postsecondary faculty, the Nevada Supreme

court issued a ruling that proved to be critical.⁴⁷ The high court decision in the *Clean Water Coalition* raised legal doubts about the use of dedicated local funding sources to balance the state general fund budget. The high court decision reversed a lower court ruling finding that dedicated funding transferred from local governments to the state's general fund was unconstitutional. The court noted that the state was confronting a budget crisis which resulted in the enactment of several cost cutting measures intended to balance the state budget. One of these mandated the transfer of \$62 million from a "political subdivision of the State" into the state's general fund for unrestricted use. The court noted two restrictions on the legislatures' authority, including Article 4, Section 1 of the Nevada Constitution. It prohibits, among other things "local and special laws for the "assessment and collection of taxes for state...purposes."⁴⁸

The decision in *The Clean Water Coalition* (May 26, 2011) called into question the governor's proposed strategy for balancing the upcoming budget. Although he had campaigned on a "no new taxes" pledge, he abruptly changed course and agreed to extend taxes planned to sunset on June 30, 2011. This decision provided \$620 million in temporary tax revenues to balance the budget.⁴⁹ This stopped the most severe cost containment plans for the universities and the schools.

Following the Nevada Supreme Court decision and subsequent actions by the governor, the legislature finalized the 2011-2013 state budget.⁵⁰ Although the governor had recommended \$121.3 million in property tax revenue from Clark and Washoe Counties to be used for the UNLV and UNR main instructional budgets in substitution for general fund appropriations, it was replaced with general fund appropriations by the legislature.⁵¹ The legislature also revised the required level of a school district's debt service reserve account. For Clark and Washoe Counties, it was the lesser of 10% of the outstanding principal or 50% of the amount of principal. The approved budget also reduced the total budget for schools to \$3.013 billion for FY 2011-2012 and \$3.070 billion for FY 2012, compared to the \$3.325 billion and \$3.364 billion approved by the 2009 Legislature for 2010-2011, a reduction of 9.1%. Guaranteed basic support (the foundation amount) was approved at \$5,263 per pupil in FY 2011-2012 and \$5,375 per pupil in FY 2012-2013, an increase of \$71 and \$111 per pupil, respectively, compared to amounts approved in the 26th special session of the legislature for 2011. Special education received no funding increases. Although the governor had recommended a 5% reduction of funding for school employees and elimination of merit pay for all state employee groups,

the legislature approved a 2.5% reduction and restoration of merit pay for K-12 educators. Tenure changes were approved along with granting the governor authority to appoint the state superintendent of public instruction. Teachers were to be considered probationary for three rather than two years. After achieving post-probationary status, if a teacher received unsatisfactory for two consecutive years, they would return to probationary status.


For higher education, the legislature approved salary reductions of 2.5% for all professional and classified personnel; 48 hours or 6 days per year of furlough leave; and suspension of merit and longevity pay, together amounting to a 5% reduction. The legislature restored funding for the NSHE to limit the decrease proposed from up to 29.4% to 15.3% compared to 2011. Also in response to budget cuts made during the 2011 legislative session, the legislature authorized and the NSHE implemented a policy change related to payroll in order to effect a one-time savings. A change was made to the pay date for all monthly employees from the last working day of each month, to the first working day of the following month, effective June, 2011. This resulted in an accounting transfer that would permit 11 months of expenditures funded with 12 months of receipts.

Subsequently, the NSHE Board of Regents approved a 13% surcharge on community college and undergraduate student registration fees for the 2011-2013 biennium. For graduate students, a 5% surcharge was approved for FY 2011-2012 with an additional 5% increase in FY 2012-2013. Of these increases, 15% would be set aside for student financial aid purposes, except at UNLV, where 25% of the surcharge generated for graduate students and 30% for law students would be set aside. Programs were reduced, degrees eliminated, and faculty downsized, but the most severe reductions were not enforced, as the economy continued to sputter and slowly improve.

Summary and Discussion

Hard times require hard choices from state lawmakers, education officials, and others particularly as related to education funding. Education comprises a significant portion of state and local budgets. When state budgets experience a shortfall, three key choices generally prevail: raise revenue, cut expenditures or make accounting changes. None of these is optimal, but decisions have to be made, and programs and services continued, while the future of the state rests in the balance. Yet, it is possible that a combination of revenue enhancements and strategic reductions can be made, preserving the system of public education until the economy recovers, given the political will.

This was the case for the state of Nevada. Funding was reduced for schools and universities, taxes were extended, and accounting changes were made, e.g., moving pay dates forward, thus eliminating a month of salary expenses. According to the Center on Budget and Policy Priorities (CBPP), states face a long and uncertain recovery.⁵² According to CBPP, "The Great Recession that started in 2007 caused the largest collapse in state revenues on record."⁵³ Reductions made during the downturn remain in effect. Since 2008, at least 46 states have enacted cuts in all major areas of state services, including

K-12 education (34 states and the District of Columbia), higher education (43 states), health care (31 states), and services to the elderly and individuals with disabilities (29 states and the District of Columbia).⁵⁴ Yet, state finances are slowly recovering. The good news is that, due to the fact that all states except Vermont have balanced budget laws, the shortfalls from 2009 through 2012 have already been addressed.⁵⁵ Strategies have included a combination of approaches—spending cuts, withdrawals from reserves, use of federal stimulus dollars, revenue increases, and accounting changes. Nevada, like other states, is coming out of a prolonged period of austerity with the largest shortfall projected among states for FY 2011-2013, a shortfall that now has been closed, at least for the present time. 

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²⁵ Nevada System of Higher Education, "Nevada System of Higher Education Responses to March 20, 2009, Budget Hearing Prepared for 'Work Session'" (Las Vegas, NV).

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³⁰ See also, Teresa Jordan, Deborah A. Verstegen, and Carmen Benedict, "Stimulating Nevada: The Impact of ARRA Funding on Education," a paper presented at the annual meeting of the American Education Research Association, Denver, Colorado, May 2010.

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³² For all other state employees, the 2009 legislature approved 12-day furloughs, an approximate pay reduction of 4.6% subject to change based on economic improvements. State employees were held harmless in the accumulation of retirement services credits, however.

³³ Kindergarten does not have class size stipulations in the state.

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³⁶ *Ibid.*, 145 ff.

³⁷ *Ibid.*, 145 ff.

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⁵³ *Ibid.*, 1.

⁵⁴ Nicholas Johnson, Phil Oliff, and Erica Williams. "An Update on State Budget Cuts: (Washington, DC: Center on Budget and Policy Priorities, February 9, 2011), <http://www.cbpp.org/cms/index.cfm?fa=view&id=1214>.

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Measuring Equity: Creating a New Standard for Inputs and Outputs

Robert C. Knoeppel and Matthew R. Della Sala

Robert C. Knoeppel is Associate Professor and Chair of the Faculty of Leadership, Counselor Education, and Human and Organizational Development at Clemson University. His research interests include equity, adequacy, and the intersection of school finance and education accountability policy.

Matthew R. Della Sala is a doctoral student in the Educational Leadership program at Clemson University. His research interests include educational policy, finance, and the use of data in schools.

What is the appropriate measure of equity in student achievement? An emerging theme in the literature is the convergence of the standards movement and school finance litigation and reform. Ryan (2008) noted that the intersection of standards and testing with school finance litigation has dominated the world of education law and policy. Superfine (2009) argued that the evolution of school finance litigation from equity to adequacy has led to legal consideration and interpretations of laws and evidence regarding standards, testing, and accountability. Despite the hoped for improvements to school finance distribution models that were foreseen in the adoption of standards, little has changed in the way that states distribute revenues to schools (Verstegen, Jordan, and Amador 2009; Verstegen, Knoeppel, and Della Sala 2012).

As the concept of educational adequacy has emerged, it has begun to be examined from multiple perspectives. For example, Alexander (2004) developed a conceptual map for understanding definitions of adequacy. She noted that emerging research has moved away from traditional notions of equity and is now specifically identifying the relationships between resources and the different phases of the schooling process. As such, researchers are assessing both the equity of resource allocation and how it is associated with differences in results. According to Alexander (2004), adequacy represents a change in thinking with regard to the appropriate financing of schools and includes three components: equity in inputs, equity in process, and equity in outputs.

Further, the research has addressed the alignment between resources to education and state and federal mandated measures of student achievement (Adams 2008; Verstegen 2002). This new imperative for education finance has emerged from reports calling for the replacement of antiquated models of education finance with new distribution systems that match resources with student need. These calls for a better of alignment of funding mechanisms with intended outcomes necessitate that researchers examine both the equity of inputs to education and the outputs of education.

The purpose of this article is to introduce a new statistic to capture the ratio of equitable student outcomes given

equitable inputs. Given the fact that finance structures should be aligned to outcome standards according to judicial interpretation, a ratio of outputs to inputs, or “equity ratio,” is introduced to discern if conclusions can be drawn with regard to the equity of both the financial resources and educational opportunity. In developing this ratio, the authors were interested in knowing if educational outcomes were equitable given equitable inputs. Previous analyses of the equity of finance systems made use of measures of dispersion; yet a more complete understanding of the equity of the system must also include measures of distribution. As such, part of the discussion of the equity ratio will include both an analysis of both the dispersion and the distribution of the results.

Defining Equity and Adequacy

Multiple terms have been used in the field of education finance to define the term equity. Each connotes a different meaning or policy goal, and each reflects the fact that the notion of equity has evolved. Brimley, Verstegen, and Garfield (2012, 50) noted, “The challenge of distributing and expending available revenues with equity and fairness to schools and to students, regardless of wealth of their parents or the location within a state, is as equally difficult and important as financing education adequately.” Equity often connotes fairness. This may be seen as either equal dollars (horizontal equity) or differential spending (vertical equity).

The issue of equity has been the focus of litigation in 44 of the 50 states and has included an analysis of both the total revenues and services provided for children (Brimley et al. 2012). It is through these class action suits that both the judiciary and scholars have distilled the definition of the term. According to Brimley et al. (2012) and Ladd (2008), scholars seem to have settled on the notion that equity can be thought of in terms of inputs and outputs. When measuring equity by the more traditional focus on inputs, an equitable finance system would be measured by what Berne and Stiefel (1984) identified as horizontal equity. Under such a system, all students would have access to a similar amount or “package” of resources (Ladd 2008). Studies that attempt to discern horizontal equity compare expenditures per child. While many such studies have been conducted, Brimley et al. (2012) noted that the examination of a simple resource allocation model that provides an equal amount of revenue to children can be problematic especially given the fact that these allocation formulae have not been adjusted to reflect research from adequacy studies.

The definition of equity in terms of outputs would, according to Ladd (2008), require that schools be provided sufficient resources to achieve similar outcomes. Because schools are differentially situated, this may require that some schools require more or different resources than others. Differential treatment of unequals is termed vertical equity (Berne and Stiefel 1984). This concept is especially relevant in the current policy context of schooling that requires equitable outcomes for all children. Some have characterized vertical equity in the ideal as adequacy (King, Swanson, and Sweetland 2003) while Ladd (2008) made the distinction that adequacy is not just about differential treatment, but rather sufficiency of

resources. An adequate school finance system provides sufficient resources so that schools provide equal opportunities to learn at high levels for all students (Ladd 2008; Darling-Hammond and Snyder 2003; Odden 2003; Verstegen 2002; Brown 2001; Reschovsky and Imazeki 2001; Picus 2001a, 2001b).

To accomplish vertical equity goals, state financing systems include reimbursements to districts in the form of flat grants or per pupil weightings. Brimley et al. (2012) argued that determining the proper allocations to address vertical equity goals may be more problematic than defining horizontal equity. Ladd (2008) responded to calls for a changed revenue distribution model that is premised on weighted student funding. She acknowledged the clear benefits of such a system, but she also argued that costs of providing an adequate education are not easily calculated at the individual student level. According to Baker (2005), the concentration of the students in individual schools increases the cost of providing an adequate education. Weighted student funding fails to consider this situation and other issues that may increase the cost of providing an adequate education. The second concern raised by Ladd (2008) is that weighted student funding does nothing to ameliorate historic underfunding of education, especially for underrepresented populations.

The standards movement may be seen as an attempt to provide equality of educational opportunity. Moreover, the alignment between equity of inputs and equity of outputs that is the cornerstone of the adequacy movement is the latest iteration of the term equity. No longer can equity of inputs and equity of outputs be examined in isolation; there must be a way to examine them simultaneously. Because educational achievement cannot be allowed to differ due to factors outside of the child’s control (Roemer 1998), policymakers must provide additional resources to students or districts to assist these students to reach proficiency standards. More recently, researchers have called for changes to the means by which schools are funded (Adams 2008). They noted the disconnect between finance policy and state and federal mandates for equitable learner outcomes, the lack of decision making authority at the local level, and the inability of principals to apply the principles of strategic management to align resources with intended learner outcomes and suggest a distribution model that links funding to children.

Equity and Adequacy in the Courts

Judicial interpretation of the terms equity and adequacy has occurred in multiple states where courts have closely examined the constitutional requirement to provide a system of common schools. States such as Kentucky and New York provided clarity to this discussion. For example, the *Rose* court (*Rose v. Council for Better Education* 1989) in Kentucky defined adequacy as substantial uniformity of both inputs and outputs of schooling while in New York, the Campaign for Fiscal Equity (CFE) decision (*Campaign for Fiscal Equity, Inc. v. State of New York* 2006), the courts used the phrase “sound basic education” and adequacy interchangeably. Indeed, these decisions have implications for the outcomes that the court expects from the state education system.

Springer, Liu, and Guthrie (2009) examined changes to education finance systems as a result of cases that were premised on equity and those argued on the grounds of adequacy. In their examination of the impact of school finance litigation, the authors found significantly decreased within-state revenue disparities in states where the finance system was overturned based on an equity challenge. Further, they found significantly smaller within-state revenue disparities in states where the finance system was overturned based on adequacy challenges as compared to states where the state finance system was upheld. However, these decreases in horizontal equity were not as great as those found in states with an equity challenge. Lastly, they found that adequacy challenges did not result in increased revenues for disadvantaged children. Terming this phenomenon, the “right kind of inequity,” the authors found no evidence to support findings that would suggest that resource allocation patterns have changed to meet the needs of children in underrepresented populations (Springer, Liu, and Guthrie 2009, 439). No changes in resource allocation patterns may impact equity of student performance. Thus, the research question, have equitable funds resulted in equitable performance, is pertinent to policy and judicial discussions related to equity, adequacy, and equality of educational opportunity. The creation of the equity ratio is an attempt to examine how resource equity can be associated with a difference in student outcomes.

Conceptualization of Adequacy and State Standards

Adequacy studies attempt to align resources with results. Attempts to define the emerging concept of adequacy have coincided with an effort to determine the costs of an adequate education. Calculations of an adequate education must begin with an answer to the question what is adequacy? The consensus in the literature, according to Brimley et al. (2012) and Ladd (2008), is that an adequate education enables all students to fully participate in both the economic and political life of the country. Standards have been seen as the conduit for ensuring that students have been equipped with the necessary skills to achieve this goal. Identifying the cost of an adequate education has not been nearly as easy. Predominantly, adequacy studies have made use of professional judgment panels. Other studies have used the successful schools approach, the “state of the art model,” or econometric modeling to estimate the cost of an adequate education (Downes and Stiefel 2008; Rebell 2006). Ladd (2008) argued that these studies must address two interrelated questions: What level of spending is required for students with no special circumstances, and how much additional spending per student is required to compensate for the challenges associated with educating children in special circumstances?

Baker (2005) introduced a conceptual model to aid in the understanding of adequacy that made use of economic theory. He proposed six assumptions for use in understanding the cost of an adequate education. First, the cost of an adequate education varies based on the desired outcomes. Simply stated, the achievement of greater student outcomes will require the investment of greater resources. Second, marginal costs of achieving desired outcomes vary based on the

district scale. Baker (2005) argued that there are economies of scale associated with the cost of education and that those costs vary as school sizes vary from the optimal. Third, the cost of an adequate education varies based on student need. Costs are associated with student circumstances, such as poverty and disability. According to Baker (2005), these students may require greater resource intensity or quality. Fourth, the cost of an adequate education varies based on the prices that districts must pay to produce similar results. Here, Baker (2005) has argued that the cost of resources varies based on the location of the district. For example, it may cost more money to hire and retain high quality teachers in rural areas. Fifth, the interaction of district size, student need, and price of inputs may increase the cost of an adequate education multiplicatively. This assumption assessed the concentration of student need with district size and location in an attempt to discern how costs may be different. Lastly, the marginal costs of achieving desired outcomes increase as the performance standards increase and those same costs decrease as performance standards decrease. As performance standards continue to increase, the cost of educating populations with high concentration of at risk children will increase exponentially.

Efforts made to assess the rigor and, therefore, the cost of an adequate system may be found in studies that align state proficiency standards to National Assessment of Educational Progress (NAEP) test scores (Bandeira de Mello 2011; Bandeira de Mello, Blankenship, and McLaughlin 2009; McLaughlin et al. 2008a; McLaughlin et al. 2008b, U.S. Department of Education, 2007). Because each state has a different assessment and a different definition of proficiency, these studies provide a common metric to compare the difficulty of state assessments and they also allow states to see how their respective standards may have changed over time. Analyses were conducted for two subject areas, reading and mathematics, and at two different grade levels, fourth and eighth grade. The most recent study (Bandeira de Mello 2011) revealed that an overwhelming majority of states (35) set proficiency standards at below basic for the fourth grade reading test. The remainder of states in the study (15) defined proficiency on their respective state test at basic for fourth grade reading. Slightly different results were for reading standards in eighth grade. Study results revealed that 16 of 50 states defined proficiency as below basic on the NAEP scale, with the remaining 34 states setting standard scores at or above basic. No states used the NAEP definition of proficiency in either fourth or eighth grade as their standard of proficiency.

Overall, scale scores were higher for mathematics. In fourth grade, seven states set proficiency standards below basic while 42 states set their respective standards above basic. One state, Massachusetts, set its standard at the NAEP definition of proficient. For eighth grade mathematics, 12 states defined proficiency below the NAEP score of basic, 36 states defined proficiency at or above the NAEP defined score of basic, and one state, Massachusetts, set its proficiency standard at the NAEP scale score for proficiency.¹

The states examined in this article were Kentucky, Massachusetts, and New York. Kentucky set fourth grade proficiency targets for reading at below basic and set mathematics

proficiency targets at basic. In eighth grade, Kentucky proficiency targets for reading and mathematics were both found to be in the basic range. Massachusetts set fourth and eighth grade mathematics proficiency at NAEP's defined level of proficiency. For fourth and eighth grade reading proficiency, the state targets were found to be at the basic level. New York, on the other hand, set fourth grade proficiency targets for reading and mathematics at below basic. Additionally, eighth grade proficiency levels for New York were set at basic for reading and below basic for mathematics. As we conceptualize the equity ratio that is discussed later in the paper, the definition of proficiency in each state is an important piece of evidence to discern state ability to provide equitable resources that result in equitable outcomes.

Conceptualizing a Ratio of Performance to Resources

Measures to assess the horizontal equity of finance systems include the range, federal range ratio, coefficient of variance, McLoone Index, and Verstegen Index (Berne and Stiefel 1984; Odden and Picus 2004; Brimley et al. 2012). Others have extended this discussion about the equity of finance systems to the concept of the equity of student performance (Knoepfel and Rinehart 2011). To date, no measure has been developed to assess the interaction between finance and student performance. Because the Kentucky high court mandated equality of both inputs to education (resources) and outputs of student achievement (performance), the development of the equity ratio begins with a consideration of what should be considered equitable. The literature clearly defines equity of inputs while the consensus on how to define equity of outputs is less clear. Our process in developing the equity ratio included consideration of measures of equity, but we also considered the distribution of both resources and measures of student achievement. The development of the equity ratio included a three step process: (1) measurement of the equity of the finance system; (2) measurement of the equity of student outcomes; and (3) calculation of the equity ratio with post hoc consideration of the distribution of both the revenues and student outcomes by examining the kurtosis and skew of both distributions as well as the McLoone and Verstegen Indices.

Standards of Equity for Finance Systems – Step One

We used the coefficient of variance to determine the horizontal equity of the finance system. The coefficient of variance is the standard deviation divided by the mean and is usually expressed in decimal form. In essence, the coefficient of variance describes the variation about the mean and varies from zero to one. The statistic includes all data, does not change with inflation, and is easy to interpret. Odden and Picus (2004) suggested a coefficient of variance of .10 as the standard for an equitable finance system.

However, given the standard of .10, a state finance system is equitable when about 68% of its districts are within 10% of the mean and about 95% of its districts are within 20% of the mean. Indeed, we anticipate variability in the distribution due to vertical equity; however, the standard of .10 results in a wide range of revenues available to districts across a state. Rather, we suggest that a finance system is equitable with a coefficient of variance that approaches .05. Using a .05

standard, 68% of the districts would be within 5% of the mean and 95% of the districts would be within 10% of the mean, reducing interdistrict variability in spending.

The McLoone and Verstegen Indices were also used to assess the equity of the finance system. The McLoone Index is the ratio of the sum of all values below the 50th percentile to the sum of all observations if those observations had the value of the median. The value of the McLoone Index ranges from zero to one. A McLoone Index of .95 or greater suggests an equitable bottom half of the distribution. The Verstegen Index is the ratio of the sum of the values of all observations above the median to the sum of all observations if they were all at the median. The value of the Verstegen Index begins at 1.0 and increases as disparities increase at the top half of the distribution. An increasing Verstegen Index indicates that districts at the top half of the distribution are receiving dollars at a rate faster than districts in the lower half of the distribution.

Whereas existing equity statistics only measure dispersion of resources, the equity ratio also includes an analysis that describes the shape of the distribution. The distribution's shape may provide necessary information to assess the vertical equity of finance systems. We postulate that a finance system has achieved vertical equity if the distribution is normal. A normal distribution would suggest that some districts received more funding than others, e.g., districts with special needs received more resources than districts without such needs. Therefore, we suggest that a finance system is equitable if the coefficient of variance approaches .05 and the finance distribution does not differ significantly from a normal distribution.

Standards of Equity for Student Outcomes – Step Two

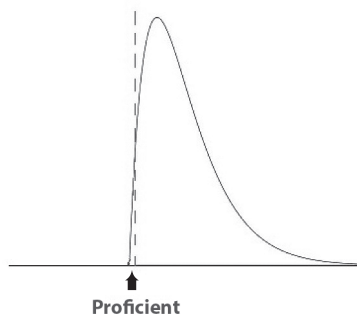
State achievement gaps and trends data have been used to assess student performance (Adkins, Kingsbury, Dahlin, and Cronin 2007). This approach ignores measures of dispersion and the distribution of student outcomes. Further, school finance litigation literature has found consistent arguments for equality of student performance (Alexander 2004). Because no measure exists to discern the equity of student performance, the development of the equity ratio included consideration of existing measures of equity used in finance. Next we describe our process to establish a standard for equity. This process was guided by the language of court interpretations, such as *Rose*, which required substantial uniformity in student achievement (*Rose v. Council for Better Education* 1989).

Odden and Picus (2004) suggested that the coefficient of variance, McLoone Index, and Verstegen Index may help researchers determine whether overall disparities and differences in the bottom and top halves of the distribution have improved. These finance statistics are appropriate to describe the equity of student performance and suggested that they provide valuable information regarding the dispersion of students' scores (Knoepfel and Rinehart 2011). Additionally, a standard for student performance equity was hypothesized to be a coefficient of variance that approaches .03 (Knoepfel and Rinehart 2011). With this standard, 68% of a state's districts would be within 3% of the mean and 95% of the districts would be within 6% of the mean. Along with the coefficient of variance, the McLoone and Verstegen Indices

provide information as to whether the top and bottom halves of the distribution are progressing towards the proposed distribution for student performance. A McLoone Index of .95 or greater suggests an equitable bottom half of the distribution and a Verstegen Index closer to one suggests students performing at the top half of the distribution are not growing at a rate faster than students performing at the lower half of the distribution.

Because policy goals and school finance litigation mandates equality of student performance at a proficient level, we postulated that the distribution of student performance should mirror that interpretation. Thus, most districts should cluster around proficiency and other districts that scored higher should tail off from the distribution (See Figure 1). We suggested that the distribution of student performance should be positively skewed, approaching or exceeding 1. The distribution should also be leptokurtic, approaching 10, and should differ significantly from normal. Additionally, the McLoone Index for student performance should be at least .98. Such a distribution of measures of student achievement would have nearly all students performing at proficient and above with the lowest part of the distribution performing at a level that is approaching proficiency. Thus, student performance would mirror policy goals and judicial decisions.

Figure 1 |



Standard for the Equity Ratio – Step Three

The equity ratio was created to discern the equity of student performance given the equity of resources. It may be used to assess policymakers' attempts to create equality of educational opportunity. The ratio measures equity of outputs over inputs; that is, it is the coefficient of variance of student performance divided by the coefficient of variance of the finance system.

We determined that an ideal equity ratio would consist of our suggested standards of equity for finance and student performance. Therefore, the ideal ratio approaches .6. Student performance was determined to be adequate if all students met proficiency. This interpretation suggests that the goal is uniformity of performance among all students. Thus, an acceptable coefficient of variance for student performance may be 0. In turn, this would cause an equity ratio of 0. Therefore, a range of 0 to .6 was determined to be acceptable.

It became evident that the ratio could be found to be in the acceptable range yet neither the finance system was equitable nor the distribution of performance measures was meeting policy goals. As such, a post hoc analysis was necessary. This

included revisiting the measures of distribution to include the mean, kurtosis, skew, the McLoone index, and the Verstegen Index.

Method, Data, and Interpretation

The analysis included district level finance and eighth grade reading and mathematics achievement data for 2006-2008 from three states: Kentucky, Massachusetts, and New York. For Kentucky, finance data from the Support Education Excellence in Kentucky (SEEK) funding program and achievement data collected from the Commonwealth Accountability Testing System (CATS) were used. For Massachusetts, finance and achievement data were collected from the Chapter 70 program and the Massachusetts Comprehensive Assessment System (MCAS), respectively. New York finance data from their general state aid program and achievement data from the New York State Testing Program (NYSTP) were utilized.

The three step process described in the previous section was used to calculate the equity ratio. First, equity statistics and measures of distribution were calculated for each state school finance system. (See Table 1.) Next equity statistics and measures of distribution for reading and mathematics scores on each state's respective test were calculated. (See Tables 2 and 3.) The data in Tables 2 and 3 were then used to calculate an equity ratio and plot the distribution of student achievement. (See Figures 2 and 3.) The equity ratio and the figures were used to draw conclusions as to the success of each state in providing equality of educational opportunity.

Table 1 | Education Finance Statistics by State, 2006-2008

Statistics by State	Year		
	2006	2007	2008
Kentucky:			
CV	.058	.057	.059
McLoone index	.95	.95	.97
Verstegen Index	1.05	1.04	1.02
Mean	4,737.32	4,822.32	5,255.72
Skew	-.223	-.226	-.109
Kurtosis	.113	.185	.162
Massachusetts:			
CV	.250	.250	.260
McLoone Index	.90	.91	.90
Verstegen Index	1.27	1.29	1.29
Mean	10,666.59	11,241.54	11,452.51
Skew	1.894	1.802	1.865
Kurtosis	4.11	4.11	3.99
New York:			
CV	.360	.359	.359
McLoone Index	.69	.69	.69
Verstegen Index	1.29	1.28	1.29
Mean	8,095.09	8,772.89	9,506.56
Skew	-.01	-.016	-.043
Kurtosis	-.394	-.247	-.524

Note: CV = Coefficient of variation

**Table 2 | Equity Ratio and Student Performance
Equity Measures for Eighth Grade Reading
by State, 2006-2008**

Statistics by State	Year		
	2006	2007	2008
Kentucky:			
Equity Ratio	1.53	1.08	1.05
CV Performance	.089	.062	.062
McLoone Index	.93	.96	.97
Mean	85.21	92.65	91.73
Skew	.350	.532	.258
Kurtosis	.994	1.834	1.533
Massachusetts:			
Equity Ratio	.31	.30	.28
CV Performance	.078	.075	.072
McLoone Index	.93	.93	.93
Mean	52.88	53.40	55.04
Skew	-.596	-.562	-.664
Kurtosis	.251	.488	.284
New York:			
Equity Ratio	.053	.05	.038
CV Performance	.019	.018	.014
McLoone Index	.98	.99	.99
Mean	661.54	661.41	664.85
Skew	.104	-.214	.315
Kurtosis	-.03	2.07	.144

Note: CV = Coefficient of variation

Consistent with research by Picus, Odden, and Fermanich (2001), the state system of education finance in Kentucky was found to be equitable. In each of the three years of study, the coefficient of variance (CV) was found to be less than the standard of 0.1. In developing the equity ratio, the authors suggested a coefficient of variance for finance of 0.05. The equity of the finance system in Kentucky is approaching this standard as well. Further, the McLoone Index was found to be in the acceptable range, measuring below 0.95 for each of the three years of study. The distribution of finance was found

Figure 2 |

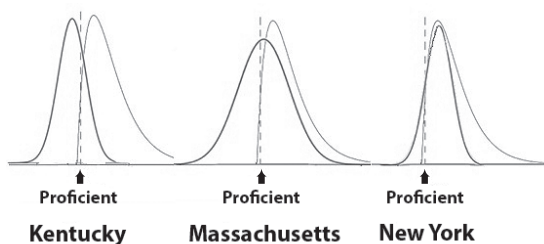
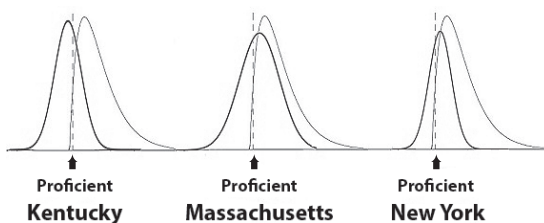


Figure 3 |



**Table 3 | Equity Ratio and Student Performance
Equity Measures for Eighth Grade
Mathematics by State, 2006-2008**

Statistics by State	Year		
	2006	2007	2008
Kentucky:			
Equity Ratio	2.12	2.10	1.81
CV Performance	.123	.120	.107
McLoone Index	.91	.92	.93
Mean	73.45	78.89	83.03
Skew	.953	.627	.618
Kurtosis	2.46	2.13	2.45
Massachusetts:			
Equity Ratio	.52	.50	.54
CV Performance	.130	.125	.140
McLoone Index	.88	.88	.89
Mean	40.96	40.81	38.46
Skew	-.554	-.565	-.297
Kurtosis	.376	.798	-.269
New York:			
Equity Ratio	.067	.061	.047
CV Performance	.024	.022	.017
McLoone Index	.98	.97	.98
Mean	660.55	669.13	677.89
Skew	-1.156	-.754	-.884
Kurtosis	5.536	4.188	5.517

Note: CV = Coefficient of variation

to be normal in Kentucky with a slight negative skew in each of the years of study. Conversely, the state system of public finance was found to be unequal in both Massachusetts and New York. In both states, the coefficient of variance was found to be greater than the standard of 0.1. In Massachusetts, the distribution of finance was found to differ significantly from normal. The distribution was both positively skewed and peaked indicating that there were more districts at the lower end of the distribution. In New York, the distribution also differed significantly from normal. The finance distribution had a negative kurtosis which indicated that the distribution was flat representing more disparity. We postulated that a finance distribution should resemble a normal distribution. As such, only Kentucky's finance formula was found to be equal when examining measures of dispersion and distribution.

The analysis next focused on the equality of measures of student achievement. This was accomplished both by an examination of the measures of dispersion and distribution found in Tables 2 and 3 as well as an examination of Figures 2 and 3. A review of the scores from the three states showed an upward trend in mean scores across the three years of study. In some states, such as Kentucky, trend scores were used as evidence of the improved performance of the system.² However, sole reliance on this measure does not consider the link between finance and student achievement nor does it consider the distribution and the provision of opportunity. In examining the equity statistics, only New York was found to have equality in performance in reading. The coefficient of

variance in each of the three years was below the standard of .03. In addition, the McLoone Index revealed scores of .98, .99, and .99 respectively indicating that the lower half of the distribution was performing close to the mean. Further, the distribution of scores in New York closely resembled the ideal distribution in Figure 1. Improvement was found in the equity of the student scores in reading in Kentucky; however, those scores did not meet the standards set in this study. In Kentucky, the coefficient of variance improved over time from .089 to .062 and the McLoone Index increased from .93 to .97. This indicates that the scores were more closely distributed around the mean and that the bottom portion of the distribution was also performing closer to the mean. The trend data in Kentucky revealed that scores were improving, but the mean score was not yet at proficient. The equity measures in Massachusetts revealed that student performance in reading was not equitable and there was little improvement in achieving equity. While the mean score for the state was above proficient, the lower portion of the distribution was falling further from the mean as evidenced by the McLoone Index. The coefficient of variance improved over time from .078 to .072, but this still revealed great disparity in student achievement in reading. When compared to New York and Kentucky, the kurtosis of the distribution of reading scores in Massachusetts was the lowest, indicating a flatter and, therefore, more disparate distribution.

For mathematics, an upward trend in mean scores was found for New York and Kentucky. The coefficient of variance for New York remained below the standard of .03 for the three years of study, suggesting an equitable distribution. The McLoone Index remained around .98, indicating that the lower half of the distribution was close to the mean. Additionally, the distribution was leptokurtic, ranging from 4.188 to 5.536. For Kentucky, the coefficient of variance did not meet the standard of equity; however, it improved from .123 to .107. The McLoone Index also was not found to be equitable although it approached the standard increasing from .91 to .93. Additionally, the kurtosis for Kentucky ranged from 2.13 to 2.46. This suggests a peaked distribution with less variability in scores. Massachusetts, on the other hand, was found to have a downward trend. Mean scores decreased from 40.96 to 38.46 over the three years. Furthermore, the coefficient of variance increased from .13 to .14, suggesting that the distribution of scores was becoming more inequitable over time. The McLoone Index, though, did increase from .88 to .89; however, these values suggest that the lower half of the distribution still had variability, with many scores further away from the mean. Finally, analysis of the kurtosis for Massachusetts revealed a decrease from .376 to -.269, suggesting that the distribution had become less peaked over time.

Analysis of the equity ratio revealed different results for each state. For Kentucky, the equity ratio did not meet the standard of .6 set forth in this paper. However, the equity ratio did improve from 1.53 to 1.05 in reading and from 2.12 to 1.81 in mathematics. Although the state did not reach its goal of substantial uniformity, the finance system was found to be near equitable and performance for reading and mathematics

were approaching equity. Thus, Kentucky was approaching their court mandates and policy intentions.

Unlike Kentucky, results for New York and Massachusetts were not easily interpretable. For the most part, both New York and Massachusetts had equity ratios that met or exceeded the standard of .6. However, deeper analysis revealed that neither state had or was approaching an equitable finance system. Thus, it became apparent that the established standard for the ratio may be achieved with inequitable finance systems and performance measures. For example, Massachusetts was found to have an inequitable finance system with a coefficient of variance of .25 and inequitable reading performance with a coefficient of variance of .078. When calculated the equity ratio was .31, exceeding the .6 standard.

Baker's (2005) conceptualization of adequacy provided insights into possible differences in results for the states' equity ratios. All three states had different demographic compositions, student needs, district sizes, proficiency targets, and standards of rigor. These differences in state contexts skewed results of the ratio. Indeed, NAEP studies revealed that New York's proficiency targets were among the lowest standards in the United States. This could, in part, explain why New York's equity of performance was lower than scores for Kentucky and Massachusetts. Comparisons between states may lead to weak conclusions drawn from results of the equity ratio. Interpretations must be made in light of the contextual situation of each state.

Discussion and Conclusion

Judicial interpretations of equity and adequacy necessitate a means by which researchers, practitioners, and policymakers can examine the interaction of inputs to schooling and measures of student achievement. The evolution of understanding of equity has changed significantly over the course of the past several decades. Initially, an equitable system of education finance was premised on notions of horizontal equity wherein equal resources was the goal. Over time, the concept that students who are differentially situated may require different resources, i.e., vertical equity, has been accepted. As such, some state education finance systems adopted formula elements such as weighted pupil units. At the same time, the adequacy movement has adopted of state and national standards for student proficiency. Today, many states are tasked with providing sufficient resources so that all children may reach proficiency standards. The achievement of proficiency, however defined, can be viewed as equality of educational opportunity.

The equity ratio was conceptualized in this article to evaluate the degree to which three states aligned resources for education to measures of student performance on eighth grade reading and mathematics between 2006 and 2008. It included the calculation of equity in finance and student achievement. For Kentucky, the equity ratio suggested that improvement in efforts to achieve equitable results given equitable resources was made over this time period. However, results for New York and Massachusetts were less clear.

In calculating the equity ratio, one of the assumptions was that an equitable finance system was necessary for equity in student performance. Indeed, this notion was influenced by the Rose decision. For states like Kentucky that mandated substantial uniformity of inputs and outputs the equity ratio serves as a valuable tool to interpret the progress of the achieving such policy. However, for states like New York and Massachusetts, that do not necessarily mandate equality of inputs and outputs, judgments about policy evaluations based on the equity ratio may be misleading. The equity ratio may serve to provide insights on a state-by-state basis; that is, much like how the equity ratio standard was influenced by the Rose decision in this paper, the standard for other states may be determined based on interpretations of court decisions and policy intentions in their respective states. Further complicating the analysis was the difference in the way that states define academic proficiency. A lower standard will result in a difference in the distribution of measures of student performance and can lead to flawed conclusions as to both the equity of a system as well as the provision of equity. This was seen in New York where the finance system is largely disparate but student achievement scores were both above proficiency and highly equitable. If the goal was to align resources with achievement, that goal was not met.

Future use and accuracy of the equity ratio will depend largely on determining the appropriate standard for each state in both finance and performance. This may include determining whether states require equality of inputs, equality of outputs, or both through an analysis of court interpretations and relevant statutes. It may also be improved by the introduction of the common core initiative, where content standards will be the same across states. If parameters for the equity ratio are established accurately, then interpretations of the statistic may help researchers, practitioners, and policymakers discern whether states are providing equality of education opportunity as measured as equality of outcomes.

Endnotes

¹ Nebraska was not included in the eighth grade mathematics analysis.

² See, *Tyler Young, et al. v. David L. Williams et al.*, Franklin Circuit Court Division II 03-CI-00055 and 03-CI-01152, February 13, 2007.

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Issues – 1973-2013

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| Spring 1973 | Inaugural issue of submitted manuscripts on education topics. | Winter 1982 | Special issue devoted to educational public relations. |
| Fall 1973 | General issue of submitted manuscripts on education topics. | Spring 1982 | General issue of submitted manuscripts on education topics. |
| Spring 1974 | Special issue on DIOSDATIMAAOEA: Detailed Identification Of Specifically Defined Activities To Increase Management Accountability And Organizational Effectiveness Approach. Guest edited by Eddy J. VanMeter, Kansas State University. | Winter 1983 | General issue of submitted manuscripts on education topics. |
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| Winter 1974 | Special issue on community education. | Fall 1983 | General issue of submitted manuscripts on education topics. |
| Spring 1975 | General issue of submitted manuscripts on education topics. | Winter/Spring 1984 | Theme issue devoted to current issues in school finance and school law. Guest edited by William Sparkman, Texas Tech University. |
| Fall 1975 | General issue of submitted manuscripts on education topics. | Fall 1984 | Theme issue devoted to multicultural education. Guest edited by James B. Boyer and Larry B. Harris, Kansas State University. |
| Winter 1976 | Special issue on educational facility and capital improvement planning. | Winter 1985 | General issue of submitted manuscripts on education topics. |
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| Winter 1981 | Special issue devoted to leadership and staff development. | | |
| Spring 1981 | Special issue devoted to the future of rural schools. | | |
| Fall 1981 | General issue of submitted manuscripts on education topics. | | |

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Fall 1998 	General issue on education-related topics.		

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